PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRV1977

HOME THEATER SYSTEM
HTV-2

- **The HTV-2 is a combination of the components in the Table below.**
- **For details regarding each component, refer to the Service Manuals below.**

Component	Model		Service Manual	Remarks
	HTV-2			
	KUXC type	KCXC type		
CONTROL CENTER	HTV-C2/AUXJ	HTV-C2/ACXJ	RRV1978	
POWERED SUBWOOFER	HTV-SW2/KUCXC	HTV-SW2/KUCXC	RRV1970	
└ AMPLIFIER	HTV-A2/KUCXJ	HTV-A2/KUCXJ	RRV1979	

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
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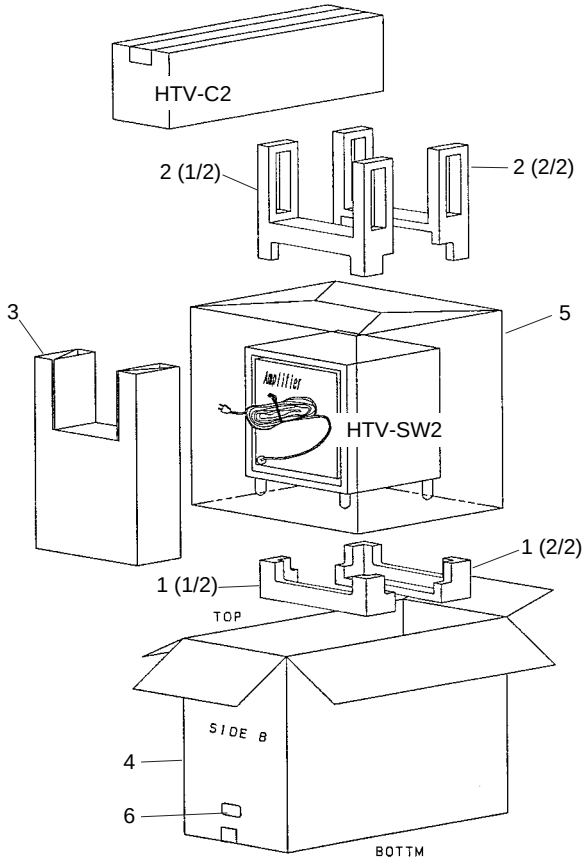
EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*

■ PACKING



(1) PACKING PARTS LIST

Mark	No.	Description	Part No.
	1	Corner Pad Assy BTM (SHA2105)	261136
	2	Corner Pad Assy TOP (SHA2106)	261141
	3	Card Board (SHB1069)	257845
	4	Packing Case	See Contrast table (2)
	5	Poly. Bag (SHL1186)	235305
NSP	6	Coaded Label (SRM1069)	244126

(2) CONTRAST TABLE

HTV-2/KUXC and HTV-2/KCXC are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.		Remarks
			KUXC type	KCXC type	
	4	Packing Case (SHG2066)	254975	Not used	
	4	Packing Case (SHG2081)	Not used	257870	

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Service Manual

ORDER NO.
RRV1978

CONTROL CENTER
HTV-C2

● Refer to the service manual RRV1960 for HTV-C1/AUXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	HTV-C2		
AUXJ	O	AC26V power supplied from other system component	
ACXJ	O	AC26V power supplied from other system component	

- **This product is a system component.**
  For the system composition, refer to the service manual RRV1979 for HTV-A2/KUCXJ.
- **This product does not operate normally by itself. Please connect it to the AMPLIFIER HTV-A2/KUCXJ, for adjustment and operation inspection. Otherwise damage may result.**

Hometheater System
HTV-2
(service manual RRV1977)

- **Control Center**
  (This manual)
- **Powered Subwoofer**
  HTV-SW2 (service manual RRV1970)
  - **Amplifier**
    HTV-A2 (service manual RRV1979)

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing,be sure to use parts of identical designation.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *Screw adjacent to ▼ mark on the product are used for disassembly.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560 Ω → 56 × 10 [1] → 561 ..... RD1/4PU 5 6 1 J

47k Ω → 47 × 10 [3] → 473 ..... RD1/4PU 4 7 3 J

0.5 Ω → R50 ..... RN2H R 5 0 K

1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 *When there are 3 effective digits (such as in high precision metal film resistors).*

5.62k Ω → 562 × 10 [1] → 5621 ..... RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

HTV-C2/AUXJ, ACXJ and HTV-C1/AUXJ are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.			Remarks
			HTV-C1	HTV-C2		
			AUXJ	AUXJ	ACXJ	
		PACKING				
P3-8		Operating Instructions (French)	Not used	Not used	ARC7200	
P3-10	NSP	Warranty Card	ARY1051	ARY1051	ARY1075	
P3-11		Remote Control Unit (CU-HTV001)	AZN7713	Not used	Not used	
P3-12	NSP	Remoto Control Unit (CU-HTV001)	AXD7157	Not used	Not used	
P3-12	NSP	Remoto Control Unit (CU-HTV002)	Not used	AXD7160	AXD7160	
P3-13		Battery Cover	RZN1156	AZN2256	AZN2256	
P3-15	NSP	Dry Cell battery (R6P, AA)	VEM-013	Not used	Not used	
P3-15	NSP	Alkali Ne Battery (LR03, AAA)	Not used	AEX1006	AEX1006	
P3-21		Packing Case	AHD7574	AHD7590	AHD7590	
		EXTERIOR				
P5-8		Rear Panel	ANC7655	ANC7661	ANC7661	

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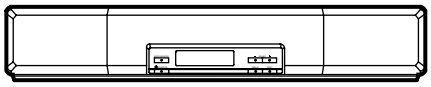
The Art of Entertainment

Service Manual



ORDER NO.
RRV1960

CONTROL CENTER
HTV-C1

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	HTV-C1		
AUXJ	◯	AC26V power supplied from other system component	
ACXJ	◯	AC26V power supplied from other system component	

- **This product is a system component.**
  For the system composition, refer to the service manual RRV1957 for HTV-A1/KUCXJ.
- **This product does not operate normally by itself. Please connect it to the AMPLIFIER HTV-A1/KUCXJ, for adjustment and operation inspection. Otherwise damage may result.**

Hometheater System
HTV-1
(service manual RRV1968)

- **Control Center**
  (This manual)
- **Powered Subwoofer**
  HTV-SW1 (service manual RRV1969)
  - **Amplifier**
    HTV-A1 (service manual RRV1957)

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 3
3. SCHEMATIC DIAGRAM 6
4. PCB CONNECTION DIAGRAM 12
5. PCB PARTS LIST 16
6. ADJUSTMENT 17
7. GENERAL INFORMATION 18
   7.1 PARTS 18
      7.1.1 IC 18
      7.1.2 DISPLAY 19
   7.2 TEST MODE 20
   7.3 BLOCK DIAGRAM 21
8. PANEL FACILITIES AND SPECIFICATIONS 23

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

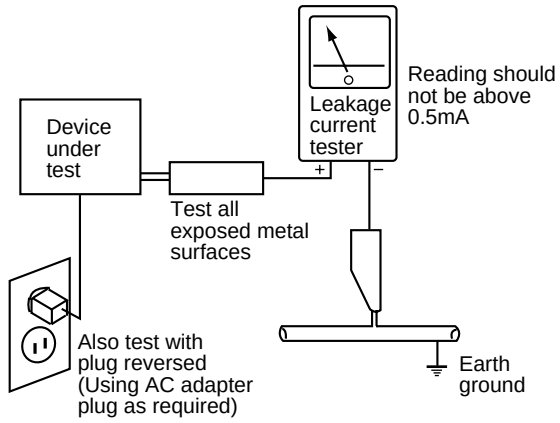
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

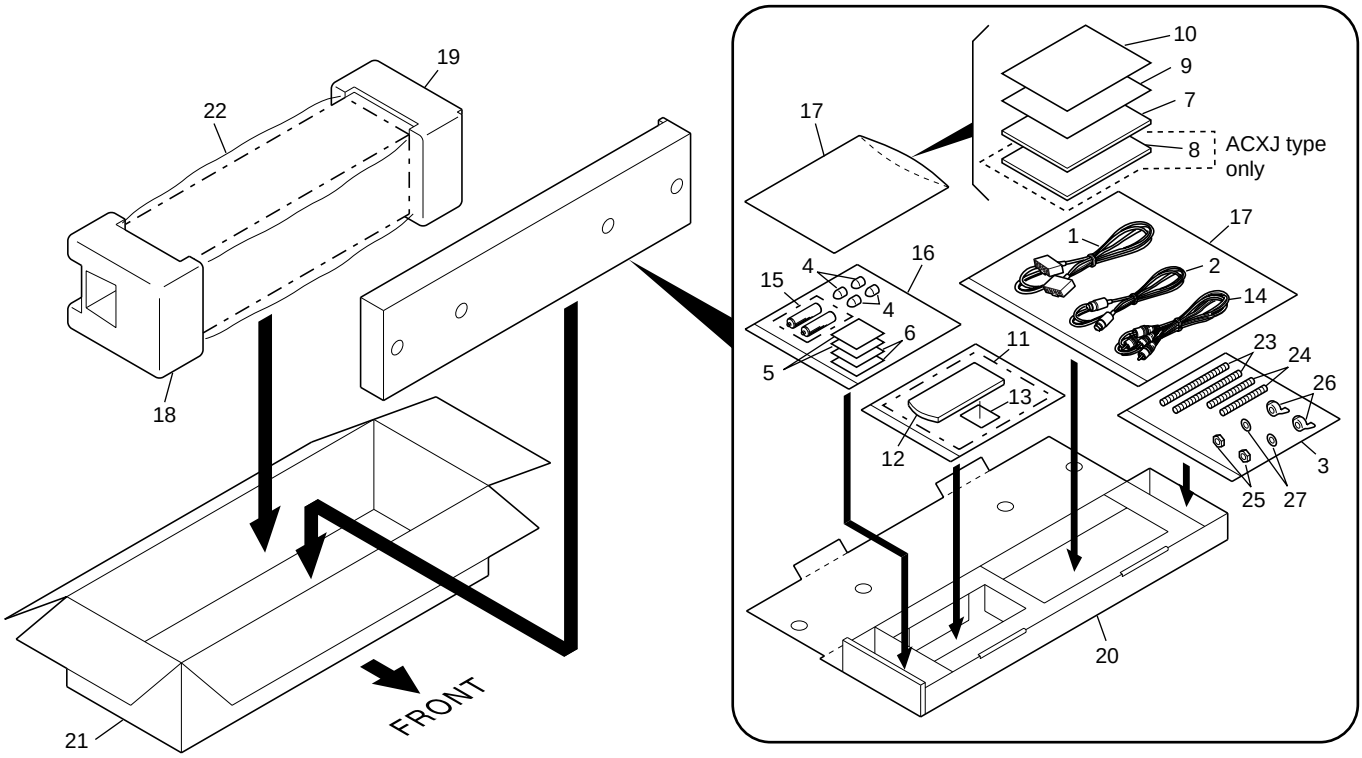
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



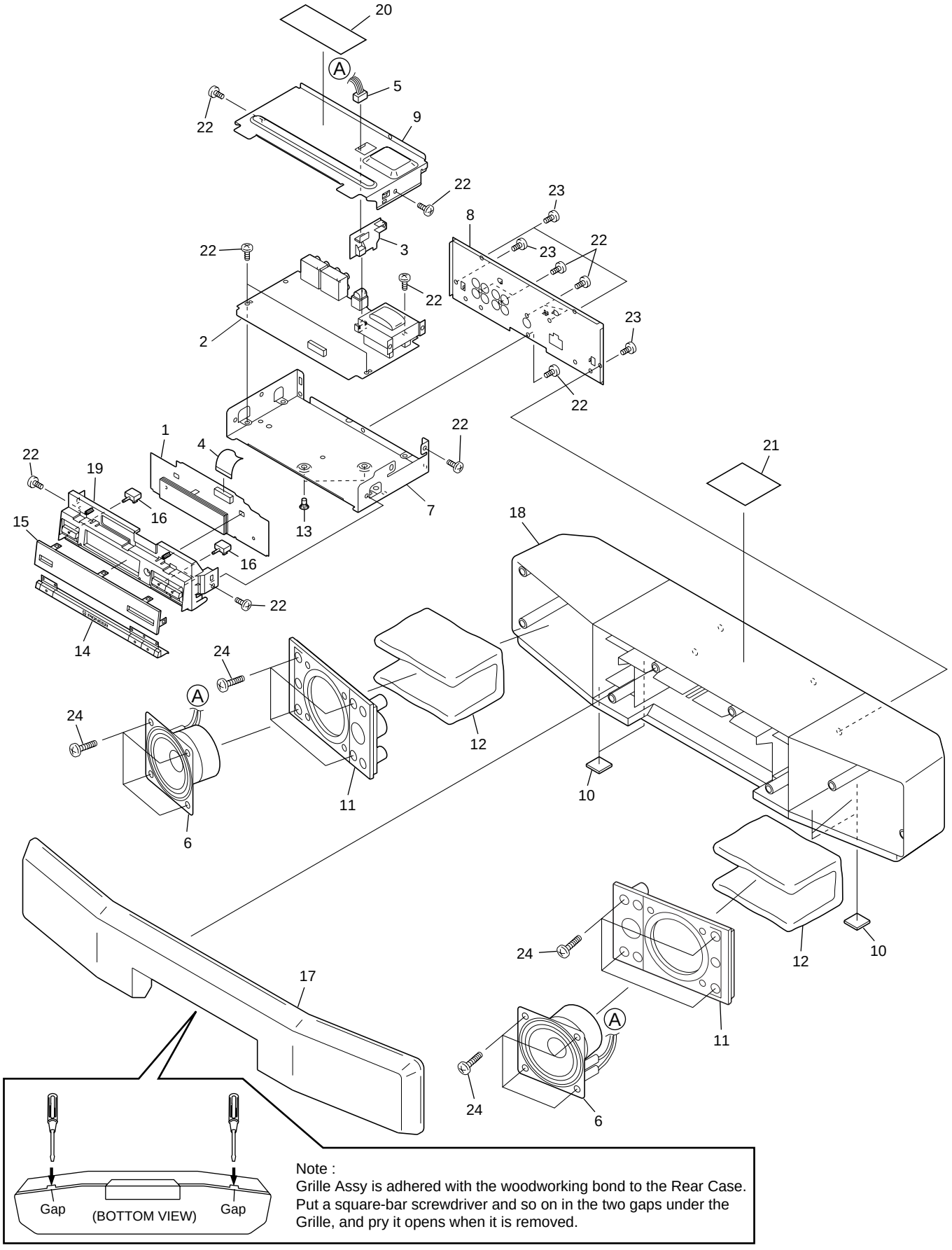
(1) PACKING PARTS LIST

Mark	No.	Description	Part No.
	1	System Cable A (L=3.0m)	ADX7239
	2	System Cable B (L=3.0m)	ADE7023
NSP	3	MOUNT Kit	AEA7021
	4	Bolt Cap	AEB7111
	5	Velcro Tape (hook)	AED7028
	6	Velcro Tape (loop)	AED7029
	7	Operating Instructions (English)	ARB7147
	8	Operating Instructions (French)	See Contrast table (2)
	9	Quick Instructions Guide	ARH7036
NSP	10	Warranty Card	See Contrast table (2)
	11	Remote Control Unit (CU-HTV001)	AZN7713
NSP	12	Remote Control Unit (CU-HTV001)	AXD7157
	13	Battery Cover	RZN1156
	14	Audio Cord (L=1.5m)	VDE1033
NSP	15	Dry Cell Battery (R6P,AA)	VEM-013
NSP	16	Polyethylene Bag	Z21-033
	17	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
	18	L Protector	AHA7209
	19	R Protector	AHA7210
	20	Paper Protector	AHA7217
	21	Packing Case	AHD7574
	22	Packing Sheet	AHG7053
	23	Bolt (L)	ABA7042
	24	Bolt (S)	ABA7041
	25	Nut	NA60FZK
	26	Wing Nut	NR60FZK
	27	Washer	WB60FZK

(2) CONTRAST TABLE

Mark	No.	Symbol and Description	Part No.		Remarks
			AUXJ Type	ACXJ Type	
	8	Operating Instructions (French)	Not used	ARC7200	
NSP	10	Warranty Card	ARY1051	ARY1075	

2.2 MAIN SECTION



Note :
Grille Assy is adhered with the woodworking bond to the Rear Case. Put a square-bar screwdriver and so on in the two gaps under the Grille, and pry it opens when it is removed.

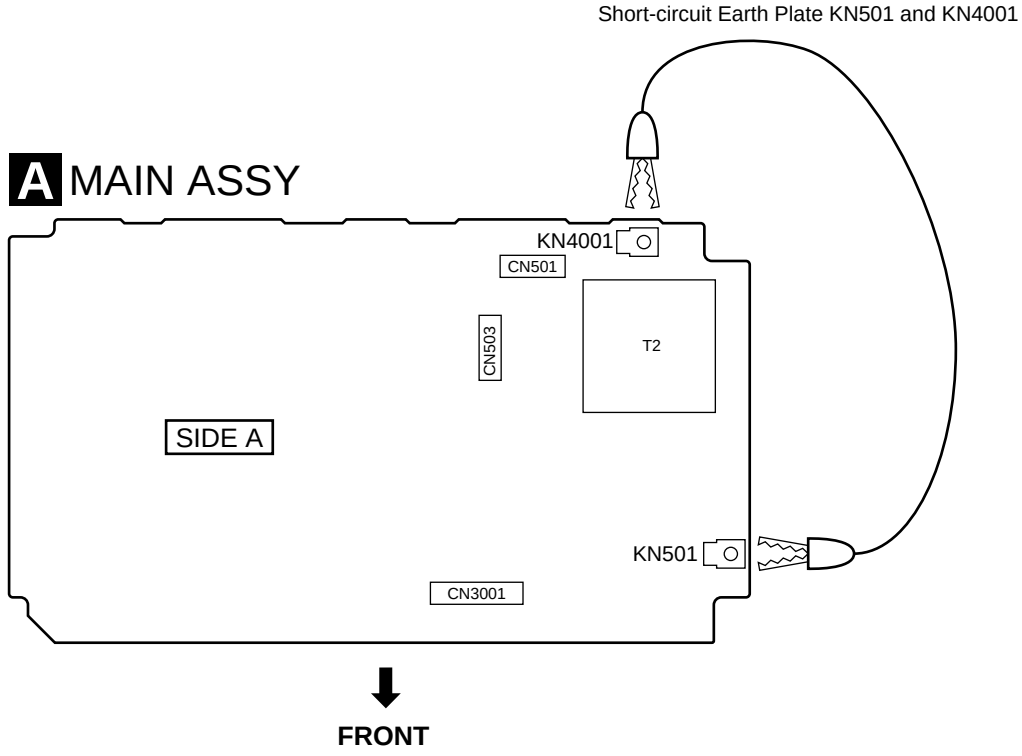
● MAIN SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	DISPLAY Assy	AWU7070
	2	MAIN Assy	AWU7071
	3	TERMINAL Assy	AWU7072
	4	19P FFC/30V	ADD7092
	5	Cable Assy 4P	ADX7240
	6	Speaker	D87DU61-51F
NSP	7	PCB Bracket	ANA7068
	8	Rear Panel	ANC7655
NSP	9	Shield Cover	ANK7040
	10	Cushion 3	AEB7110
NSP	11	Baffle	AMD7004
NSP	12	Acoustic Absorbent	AMT7001
	13	Card Spacer	DNK2769
	14	Button	AAD7454
	15	Display Panel	AAK7550
	16	Lens	AAK7551
	17	Grille Assy	AAS7001
NSP	18	Rear Case	AMC7025
	19	Sub Panel	AMD7003
NSP	20	Fuse Caution Label	AAX7645
NSP	21	Founding Caution	AAX7649
	22	Screw	BBZ30P080FMC
	23	Screw	VPZ30P080FMC
	24	Screw	BPZ40P140FZK

NOTE :

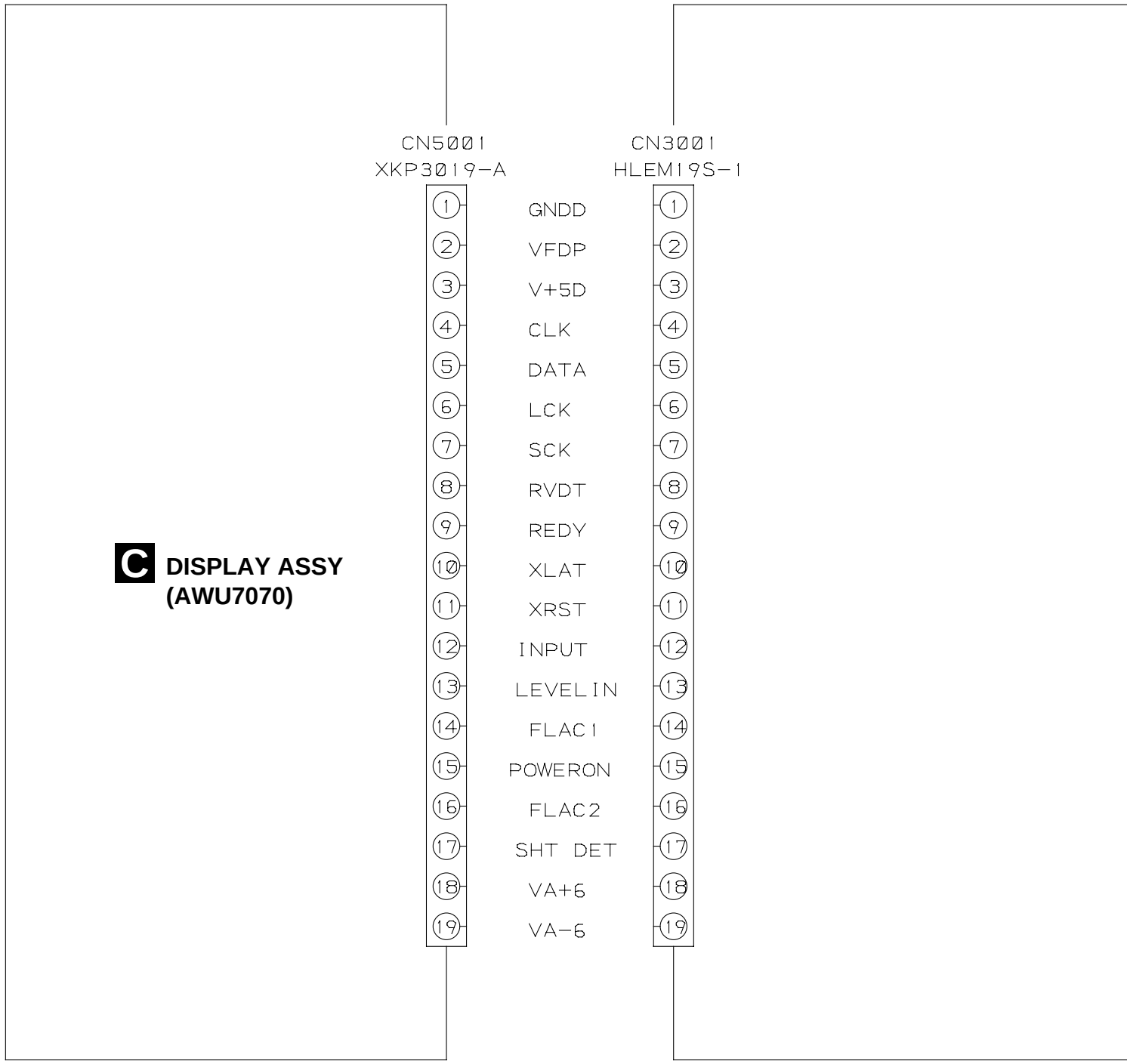
• The attention points when remove the MAIN Assy from the chassis and diagnose it

It doesn't move when Earth Plates KN501 and KN4001 aren't connected.
When you remove the MAIN Assy from the chassis and diagnose it, short-circuit Earth Plate KN501 and KN4001 and diagnose it.

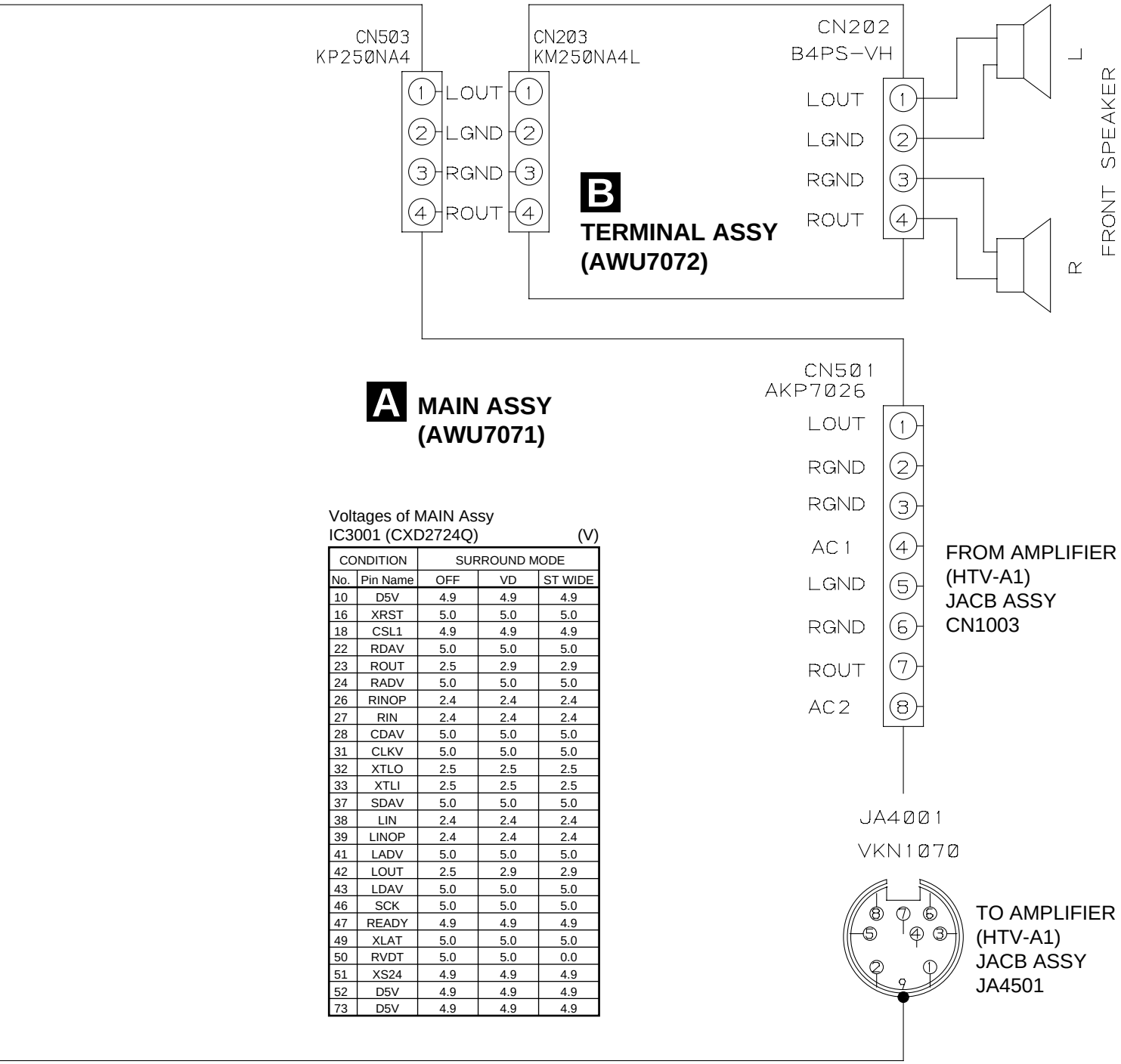


3. SCHEMATIC DIAGRAM

3.1 OVERALL WIRING DIAGRAM



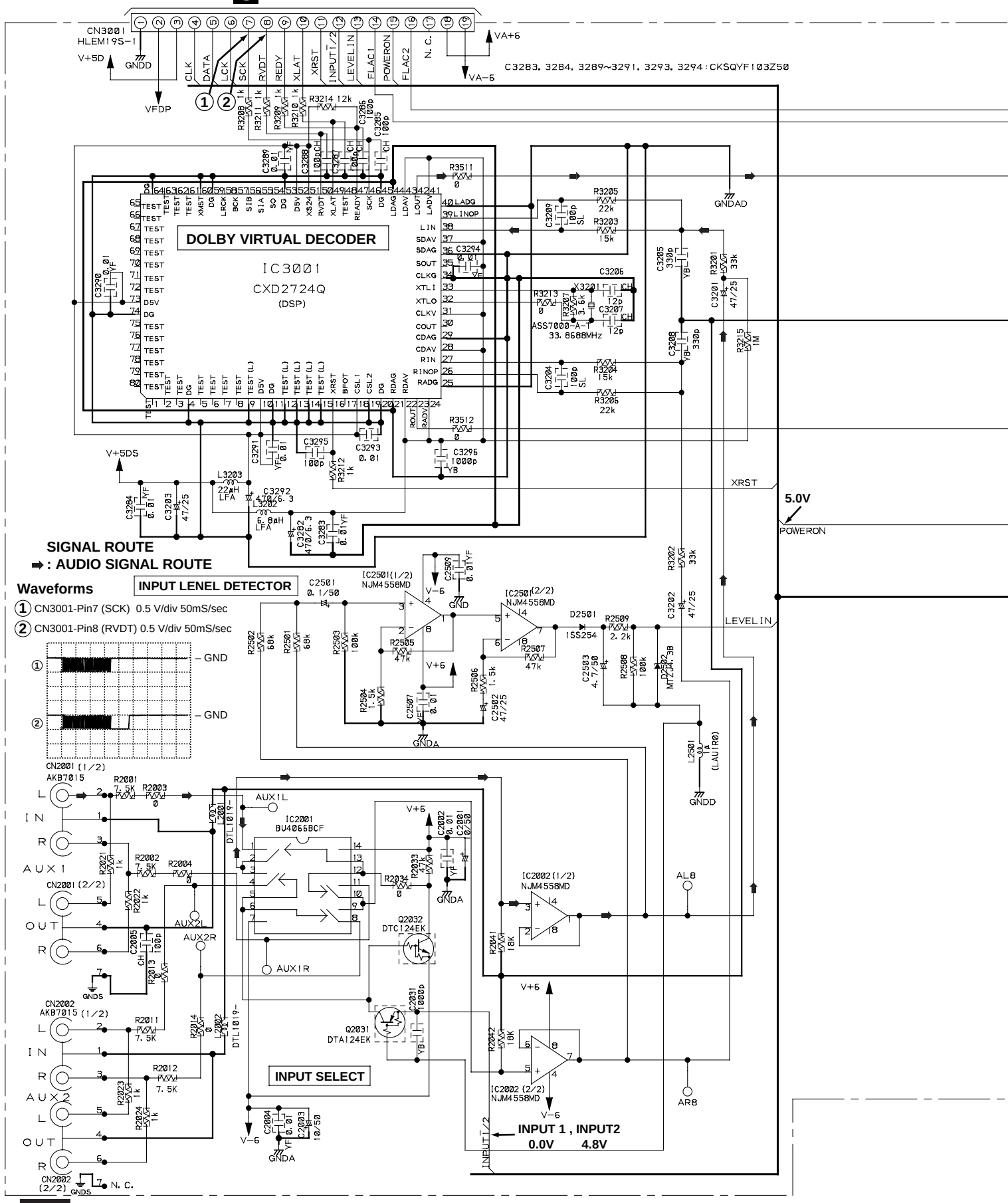
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

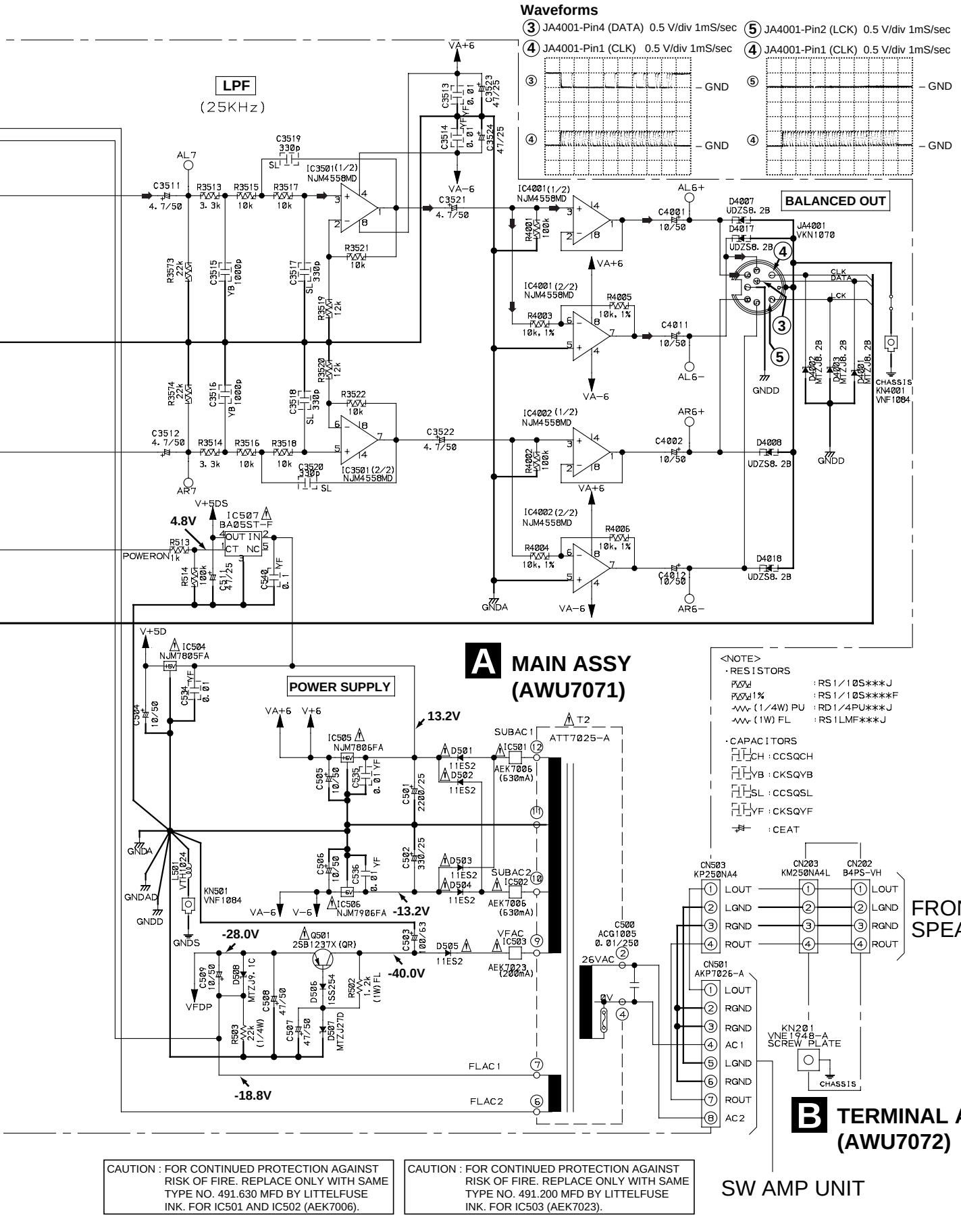


Voltages of MAIN Assy
IC3001 (CXD2724Q) (V)

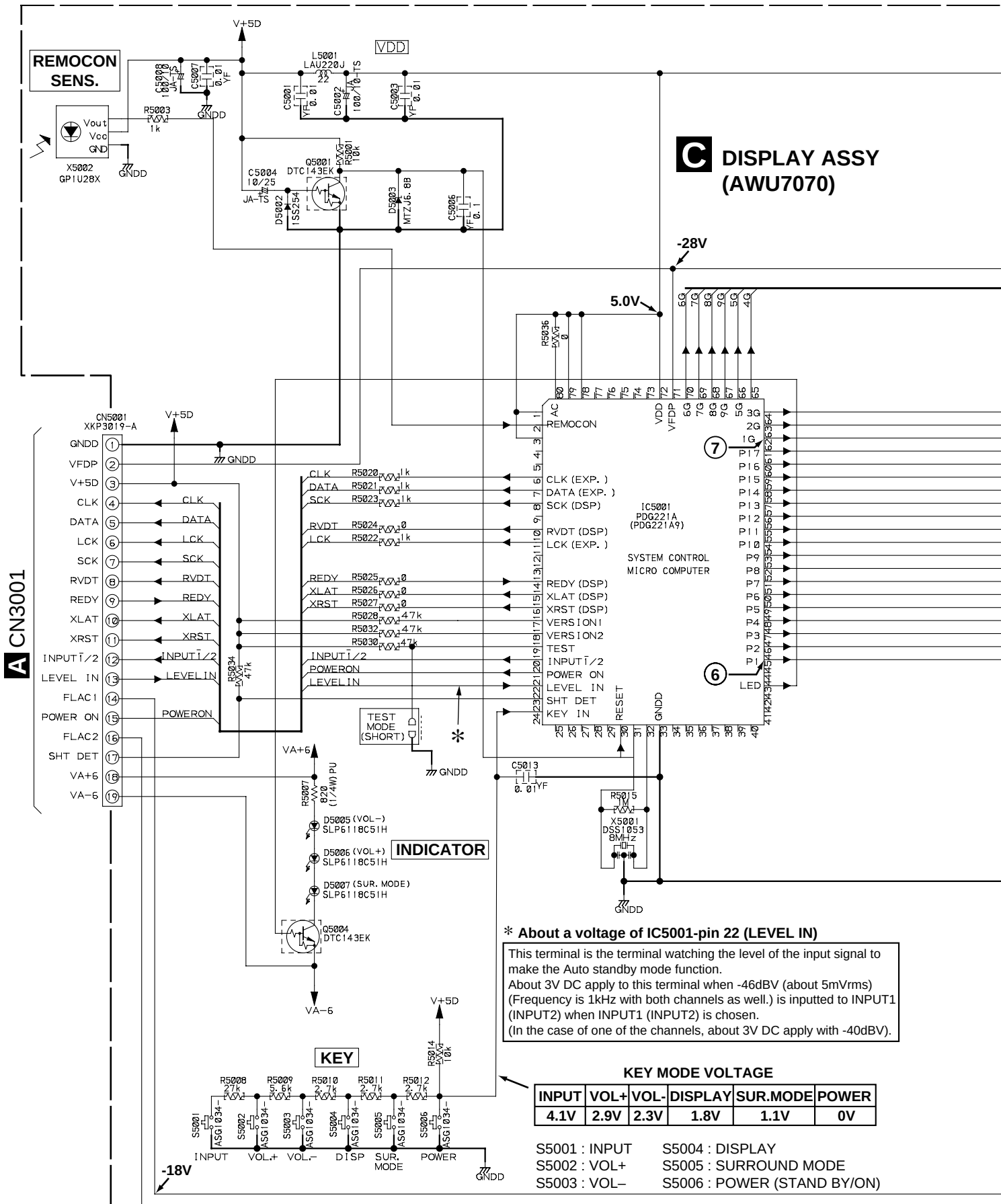
CONDITION		SURROUND MODE		
No.	Pin Name	OFF	VD	ST WIDE
10	D5V	4.9	4.9	4.9
16	XRST	5.0	5.0	5.0
18	CSL1	4.9	4.9	4.9
22	RDAV	5.0	5.0	5.0
23	ROUT	2.5	2.9	2.9
24	RADV	5.0	5.0	5.0
26	RINOP	2.4	2.4	2.4
27	RIN	2.4	2.4	2.4
28	CDAV	5.0	5.0	5.0
31	CLKV	5.0	5.0	5.0
32	XTLO	2.5	2.5	2.5
33	XTLI	2.5	2.5	2.5
37	SDAV	5.0	5.0	5.0
38	LIN	2.4	2.4	2.4
39	LINOP	2.4	2.4	2.4
41	LADV	5.0	5.0	5.0
42	LOUT	2.5	2.9	2.9
43	LDAV	5.0	5.0	5.0
46	SCK	5.0	5.0	5.0
47	READY	4.9	4.9	4.9
49	XLAT	5.0	5.0	5.0
50	RVDT	5.0	5.0	0.0
51	XS24	4.9	4.9	4.9
52	D5V	4.9	4.9	4.9
73	D5V	4.9	4.9	4.9

3.2 MAIN AND TERMINAL ASSEMBLIES




Waveforms
3 JA4001-Pin4 (DATA) 0.5 V/div 1mS/sec
4 JA4001-Pin1 (CLK) 0.5 V/div 1mS/sec
5 JA4001-Pin2 (LCK) 0.5 V/div 1mS/sec
4 JA4001-Pin1 (CLK) 0.5 V/div 1mS/sec
– GND
LPF
(25KHz)
BALANCED OUT
A MAIN ASSY (AWU7071)
POWER SUPPLY
B TERMINAL ASSY (AWU7072)
FRONT SPEAKER
SW AMP UNIT
<NOTE>
·RESISTORS
·CAPACITORS
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.630 MFD BY LITTELFUSE INK. FOR IC501 AND IC502 (AEK7006).
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.200 MFD BY LITTELFUSE INK. FOR IC503 (AEK7023).

3.3 DISPLAY ASSY



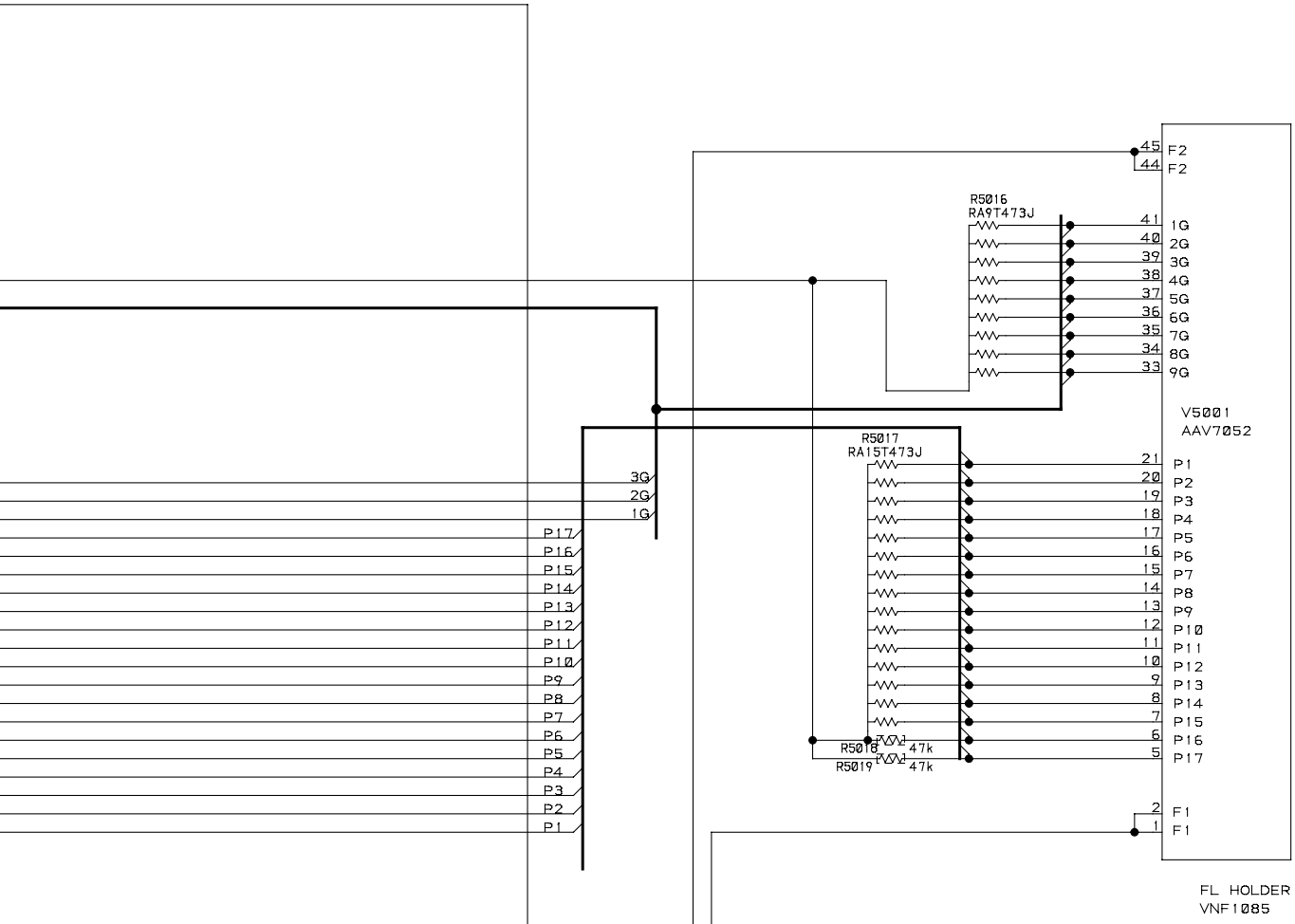
* **About a voltage of IC5001-pin 22 (LEVEL IN)**

This terminal is the terminal watching the level of the input signal to make the Auto standby mode function.
About 3V DC apply to this terminal when -46dBV (about 5mVrms) (Frequency is 1kHz with both channels as well.) is inputted to INPUT1 (INPUT2) when INPUT1 (INPUT2) is chosen.
(In the case of one of the channels, about 3V DC apply with -40dBV).

KEY MODE VOLTAGE

INPUT	VOL+	VOL-	DISPLAY	SUR.MODE	POWER
4.1V	2.9V	2.3V	1.8V	1.1V	0V

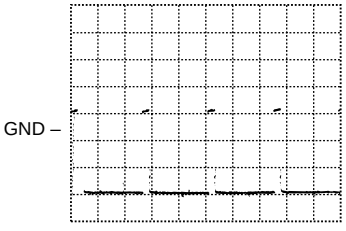
S5001 : INPUT
S5002 : VOL+
S5003 : VOL–
S5004 : DISPLAY
S5005 : SURROUND MODE
S5006 : POWER (STAND BY/ON)



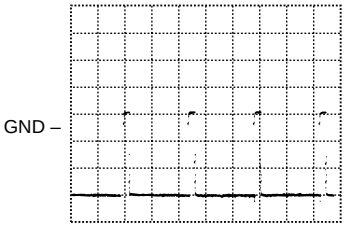
<NOTE>
·RESISTORS
: RS1/10S***J
: RD1/4PU***J
·CAPACITORS
: CKSQYF
: CKSQYB
: CCSQCH
: CCSQSL
: CEJA

Waveforms

6 IC5001-Pin45 (P1) 1V/div 2mS/sec



7 IC5001-Pin62 (1G) 1V/div 2mS/sec



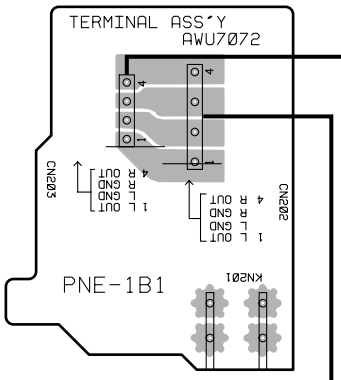
4. PCB CONNECTION DIAGRAM

4.1 MAIN, TERMINAL AND DISPLAY ASSEMBLIES

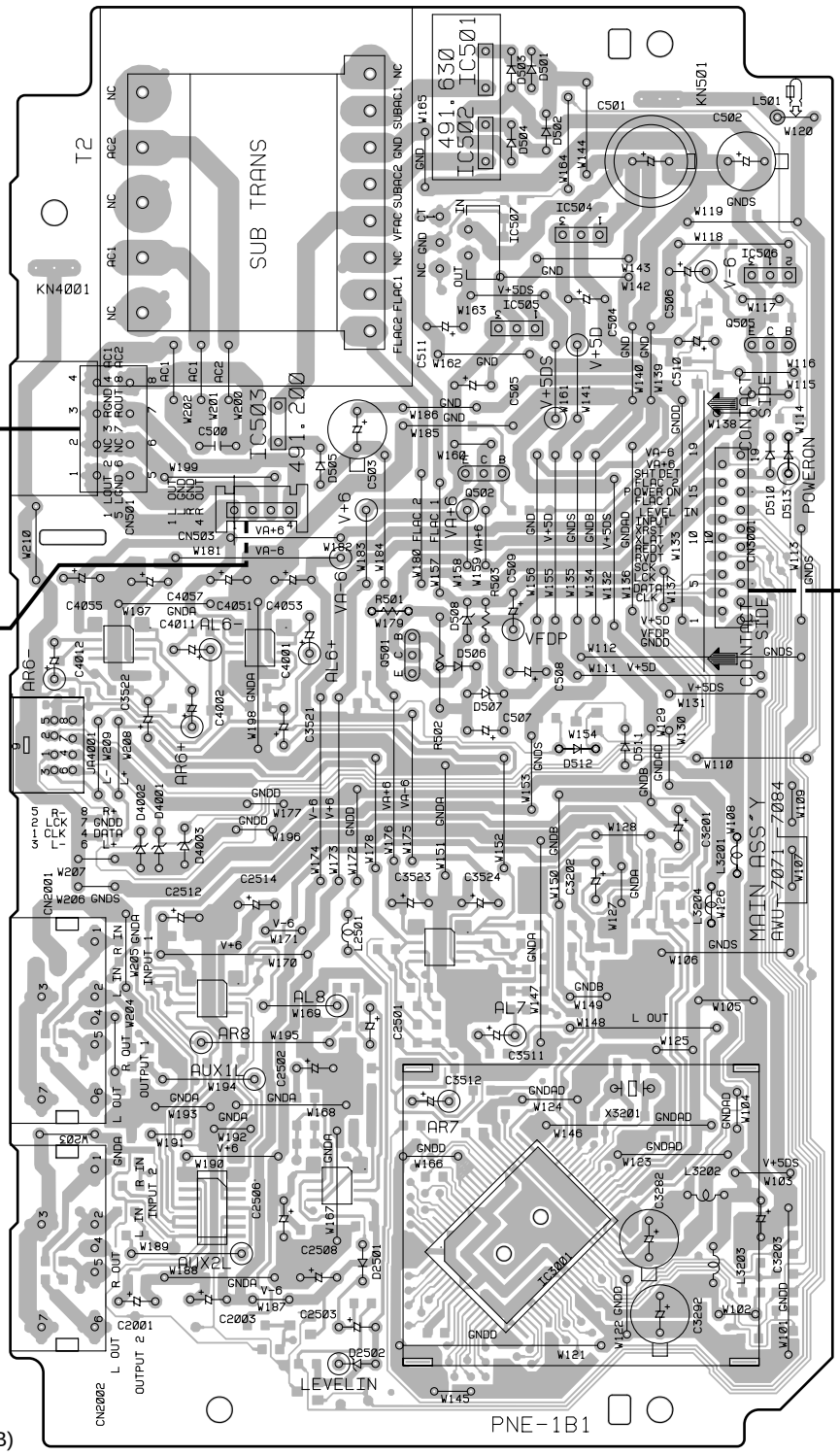
A MAIN ASSY

SW AMP UNIT

B TERMINAL ASSY



FRONT SPEAKER



(ANP7252-B)

IC501–IC503 Q501 Q502 IC504–IC507 Q505

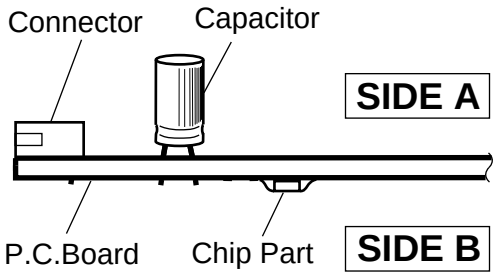
SIDE A

NOTE FOR PCB DIAGRAMS :

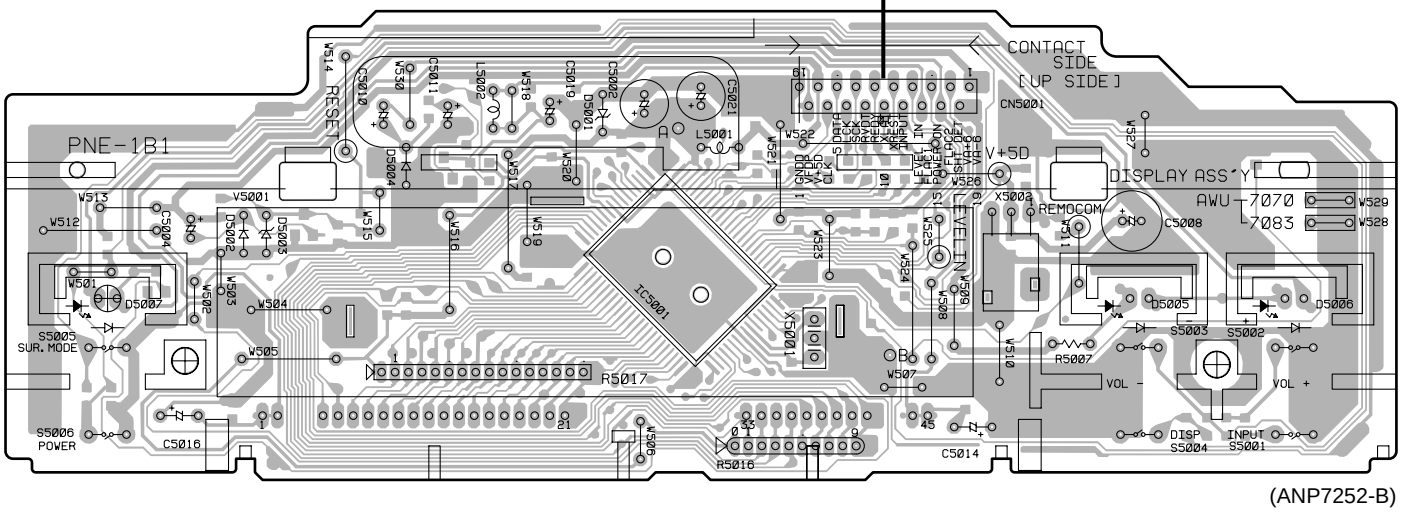
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



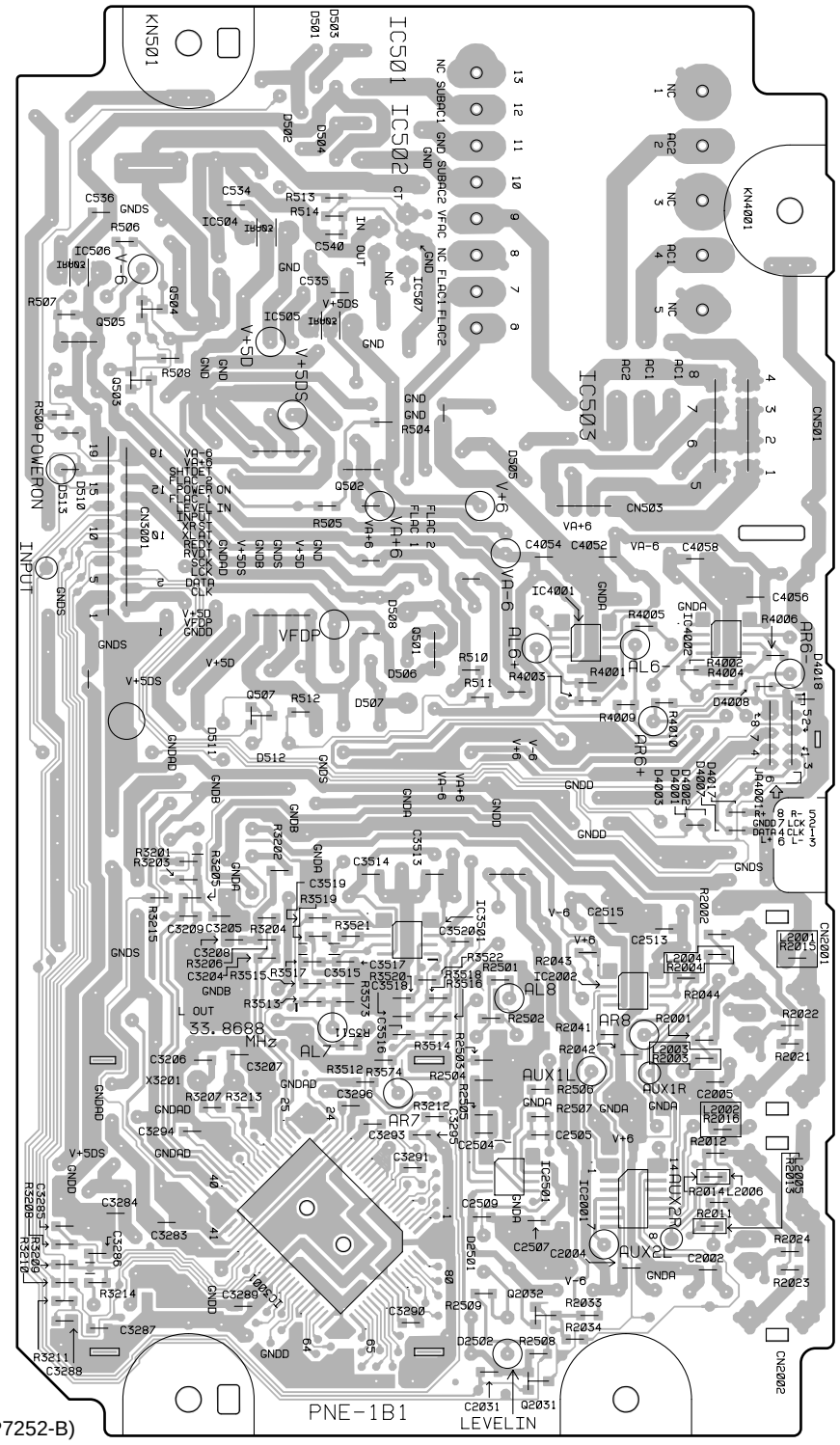
C DISPLAY ASSY



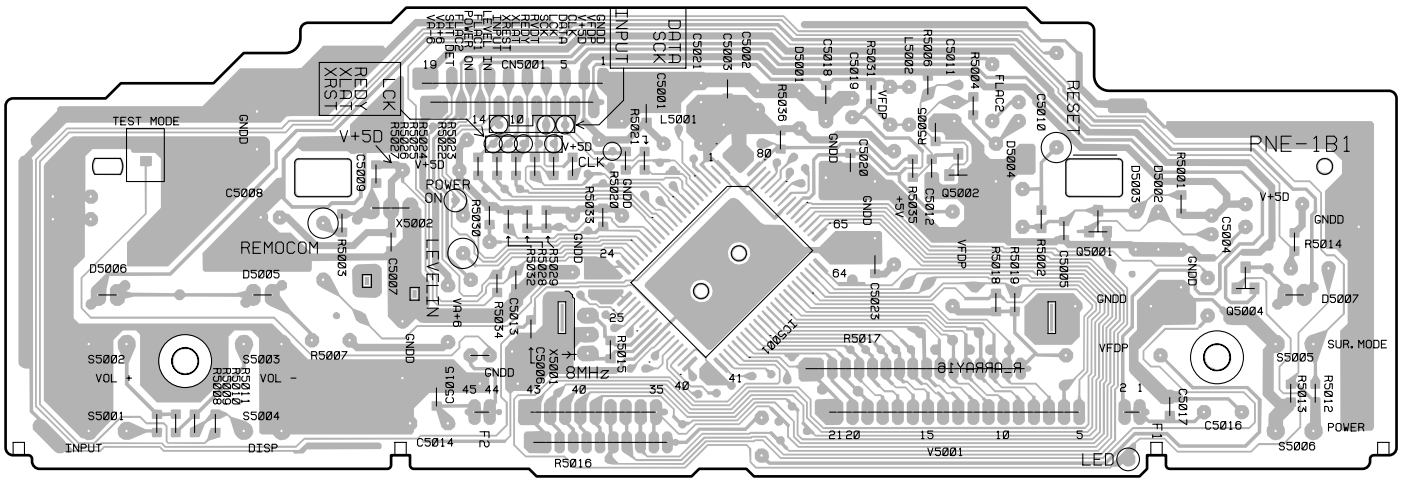
(ANP7252-B)

SIDE A

A MAIN ASSY


PNE-1B1
IC501
IC502
IC503
IC504
IC505
IC506
IC507
IC4001
IC4002
IC3501
IC2002
IC3001
IC2501
IC2001
Q504
Q507
Q2032
Q2031
Q2501
Q2502
Q4001
Q4002
Q4003
Q4004
Q4005
Q4006
Q4007
Q4008
Q4009
Q4010
Q4011
Q4012
Q4013
Q4014
Q4015
Q4016
Q4017
Q4018
Q4019
Q4020
Q4021
Q4022
Q4023
Q4024
Q4025
Q4026
Q4027
Q4028
Q4029
Q4030
Q4031
Q4032
Q4033
Q4034
Q4035
Q4036
Q4037
Q4038
Q4039
Q4040

C DISPLAY ASSY



(ANP7252-B)

IC5001 Q5002 Q5004

SIDE B

5. PCB PARTS LIST

NOTES: ●*Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
●*The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
●*When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→	*56×10^1*	→	*561*	..... *RD1/4PU 5 6 1 J*
47k Ω	→	*47×10^3*	→	*473*	..... *RD1/4PU 4 7 3 J*
0.5 Ω	→	*R50*			..... *RN2H R 5 0 K*
1 Ω	→	*1R0*			..... *RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→	*562×10^1*	→	*5621*	..... *RN1/4PC 5 6 2 1 F*

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

	COMPLEX ASSY	AWM7369
	├ MAIN ASSY	AWU7071
	├ TERMINAL ASSY	AWU7072
	└ DISPLAY ASSY	AWU7070

A MAIN ASSY

SEMICONDUCTORS

⚠	IC501,IC502(630mA)	AEK7006
⚠	IC503(200mA)	AEK7023
⚠	IC507	BA05ST
	IC2001	BU4066BCF
	IC3001	CXD2724Q
	IC2002,IC2501,IC3501,IC4001	NJM4558MD
	IC4002	NJM4558MD
⚠	IC504	NJM7805FA
⚠	IC505	NJM7806FA
⚠	IC506	NJM7906FA
⚠	Q501	2SB1237X
	Q2031	DTA124EK
	Q2032	DTC124EK
⚠	D501-D505	11ES2
	D2501,D506	1SS254
	D507	MTZJ27D
	D2502	MTZJ4.3B
	D4001-D4003	MTZJ8.2B
	D508	MTZJ9.1C
	D4007,D4008,D4017,D4018	UDZS8.2B

COILS

	L2001,L2002	DTL1019
	L2501	LAU1R0J
	L3203	LFA220J
	L3202	LFA6R8J
	L501	VTH1024

TRANSFORMER

⚠	T2	ATT7025

CAPACITORS

	C500(0.01μF,AC250V)	ACG1005
	C2005,C3285-C3288,C3295	CCSQCH101J50
	C3206,C3207	CCSQCH120J50
	C3204,C3209	CCSQSL101J50
	C3517-C3520	CCSQSL331J50
	C2001,C2003,C4001,C4002	CEAT100M50
	C4011,C4012,C504-C506,C509	CEAT100M50
	C503	CEAT101M63
	C501	CEAT222M25
	C502	CEAT331M25
	C2502,C3201-C3203,C3523	CEAT470M25
	C3524	CEAT470M25
	C511	CEAT470M25
	C507,C508	CEAT470M50
	C3282,C3292	CEAT471M6R3
	C2503,C3511,C3512,C3521	CEAT4R7M50
	C3522	CEAT4R7M50
	C2501	CEATR10M50
	C2031,C3296,C3515,C3516	CKSQYB102K50
	C3205,C3208	CKSQYB331K50
	C2002,C2004,C2507,C2509	CKSQYF103Z50
	C3283,C3284,C3289-C3291	CKSQYF103Z50
	C3293,C3294,C3513,C3514	CKSQYF103Z50
	C534-C536	CKSQYF103Z50
	C540	CKSQYF104Z50

RESISTORS

	R503	RD1/4PU223J
	R4003-R4006	RS1/10S1002F
	R502	RS1LMF122J
	Other Resistors	RS1/10S□□□J

OTHERS

	CN2001,CN2002 4P PIN JACK	AKB7015
	CN501 8P CONNECTOR	AKP7026
	X3201 CRYSTAL RESONATOR (33.8688MHz)	ASS7000
	CN3001 FFC CONNECTOR 19P	HLEM19S-1
	CN503 4P SOCKET	KP250NA4
	JA4001 I/O JACK	VKN1070
	KN4001,KN501 EARTH METAL FITTING	VNF1084

Mark	No.	Description	Part No.

B TERMINAL ASSY

OTHERS

	CN203	4P PLUG	KM250NA4L
	KN201	SCREW PLATE	VNE1948

C DISPLAY ASSY

SEMICONDUCTORS

	IC5001		PDG221A
	Q5001,Q5004		DTC143EK
	D5002		1SS254
	D5003		MTZJ6.8B
	D5005-D5007		SLP6118C51H

COIL

	L5001		LAU220J

SWITCHES

	S5001-S5006		ASG1034

CAPACITORS

	C5004		CEJA100M25
	C5002,C5008		CEJA101M10
	C5023		CKSQYB472K50
	C5001,C5003,C5007,C5013		CKSQYF103Z50
	C5006		CKSQYF104Z50

RESISTORS

	R5017		RA15T473J
	R5016		RA9T473J
	R5007		RD1/4PU821J
	Other Resistors		RS1/10S□□□J

OTHERS

	V5001	FL TUBE	AAV7052
	X5001	CERAMIC RESONATOR (8MHz)	DSS1053
	X5002	REMOTE RECEIVER UNIT	GP1U28X
		FL HOLDER	VNF1085
	CN5001	FFC CONNECTOR 19P	XKP3019

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

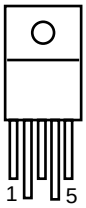
• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ BA05ST (MAIN ASSY : IC507)

• Regulator IC

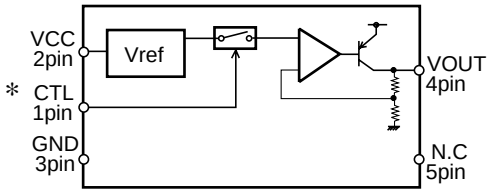
●Pin Assignment

Top Vew



1 pin:CTL
2 pin:VCC
3 pin:GND
4 pin:VOUT
5 pin:N.C

●Block Diagram



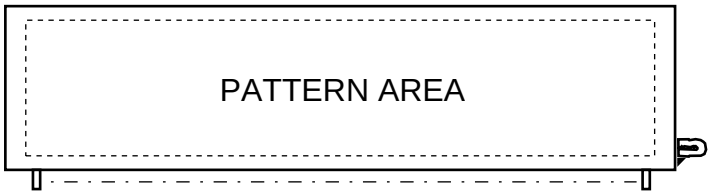
* CTL (1pin)

CTL terminal voltage	Output
More than 2.0V	ACTIVE
Less than 0.8V	OFF

7.1.2 DISPLAY

■ AAV7052 (DISPLAY ASSY : V5001)

• FL TUBE

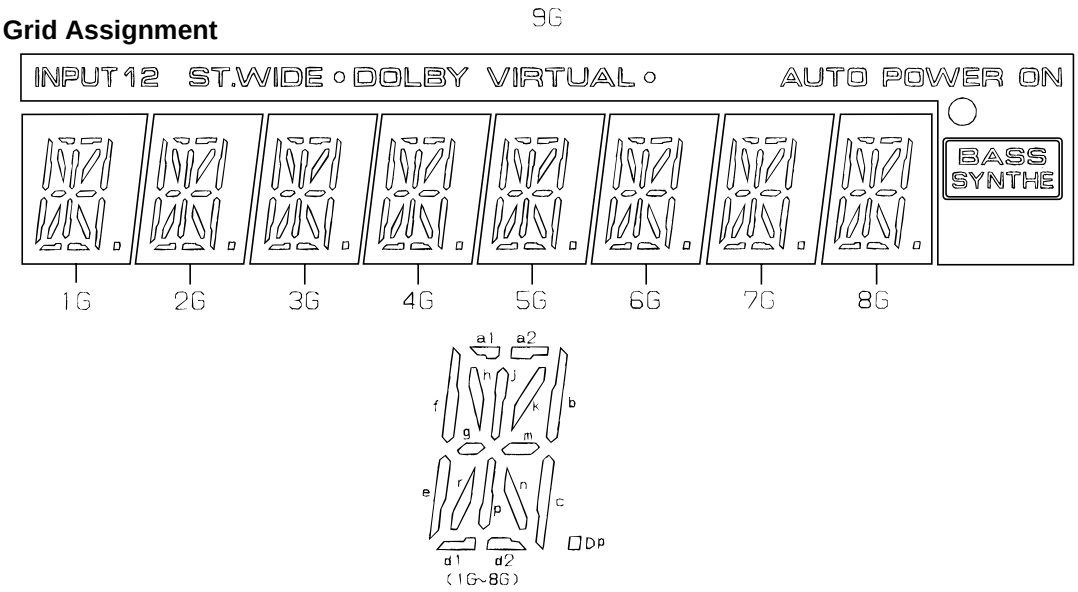


• Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CONNECTION	F1	F1	NP	NP	P7	P6	P5	P4	P3	P2	P1	P0	P9	P8	P7	P6	P5	P4	P3	P2	P1	P0	NX	NX	NX	NX	NX	NX	NX	NX	NX	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2

NOTE 1) F1,F2 ---------- Filament
2) NP ----------No pin
3) NX ---------- No extend pin
4) DL ---------- Datum Line
5) 1G - 9G ---------- Grid

• Grid Assignment



• Anode Connection

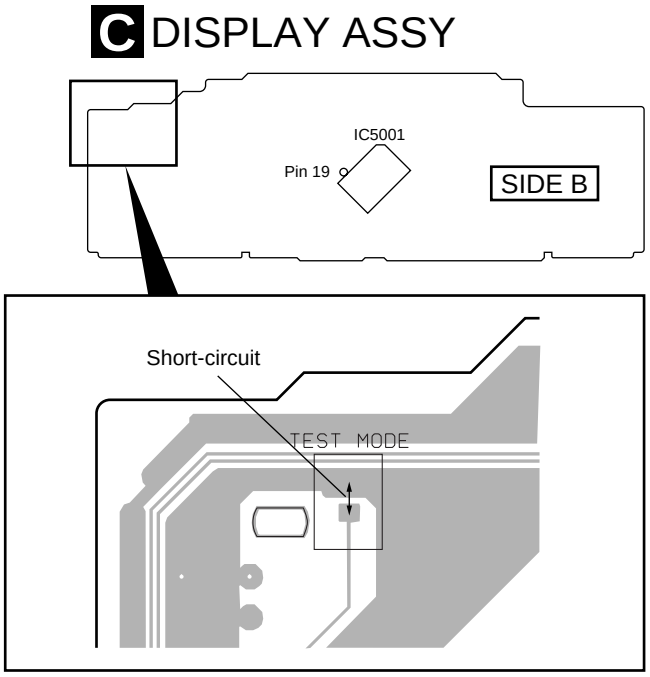
	1G - 8G	9G		1G - 8G	9G
P1	a1	INPUT	P10	c	BASS SYNTHE
P2	a2	1	P11	e	—
P3	h	2	P12	r	—
P4	j	ST.WIDE	P13	p	—
P5	k	○ DOLBY VIRTUAL ○	P14	n	—
P6	b	AUTO	P15	d1	—
P7	f	POWER	P16	d2	—
P8	m	ON	P17	Dp	—
P9	g	○			

7.2 TEST MODE

7.2.1 TEST MODE

7.2.1.1 How to Enter the Test Mode

Even that is possible though there are the following two methods.
(1) Receive "A55F" command with the remote control unit.
(2) Short-circuit the TEST MODE points on the foil side (pin 19 of IC5001 and ground) of the DISPLAY Assy. Plug the power cord into the AC socket.



- When the test mode is entered, FL displays with "TEST 1" for 1 second.
- LED keeps going on and off in the Test Mode.
- At this time, the setting of VOLUME becomes 10.
- SURROUND mode becomes DOLBY VIRTUAL ON.

7.2.1.2 Test Mode Operation

FL Segment Check

Press the DISPLAY key → Switch the movement of (1) to (5) cyclically.
(1) All lighting the FL and LED
(2) All light-out the FL and LED
(3) (segment check 1) "ABCDEFGH" display
(4) (segment check 2) "IJKLMNOP" display
(5) Normal display

1. Check The AUTO STANDBY Function

(1) Press the INPUT key →
Turn the POWER off and it becomes AUTO STANDBY mode.
FL displays with "AUTO".
(It becomes the condition that it passes for three minutes during POWER ON with no signal.)

(2) Input the input signal to INPUT terminal →
AUTO POWER ON.
(It moves only when it is inputted to the selected INPUT terminal.)

2. DSP Check

Press the SURR. MODE key → Enter the DSP check mode.

DSP check mode

Outputs TEST TONE in the DOLBY VIRTUAL state.
Output repeatedly TEST TONE in order of LEFT → CENTER → RIGHT → SURROUND.
Confirm whether DSP moves normally at the time of the SURROUND output.

Press the SURROUND MODE key twice → Release the DSP check mode. FL and LED are normal display.

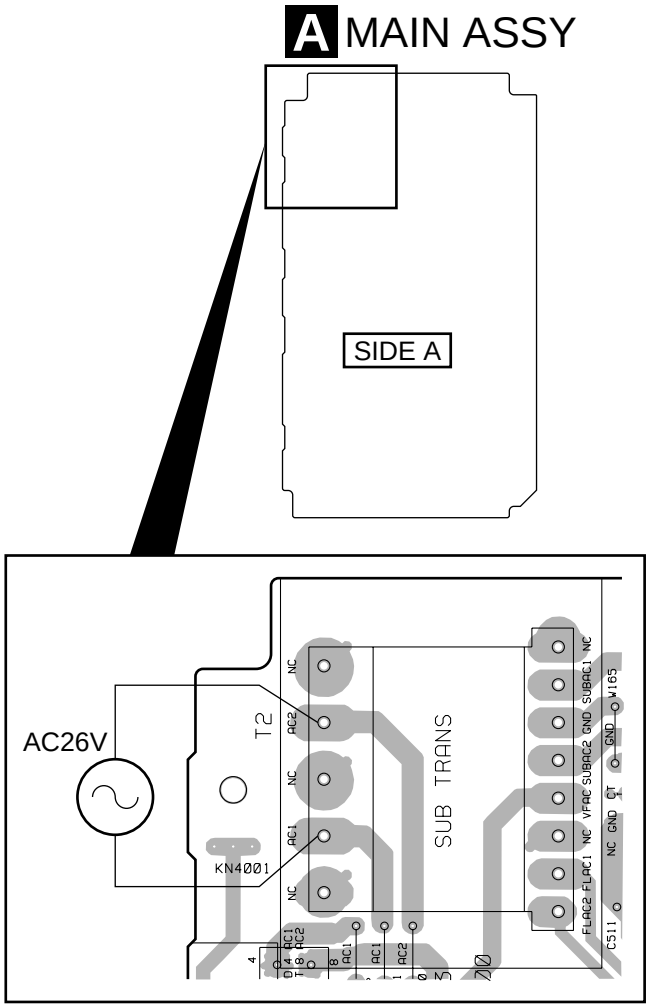
* A key except for the designation normally moves.

7.2.1.3 Release The Test Mode

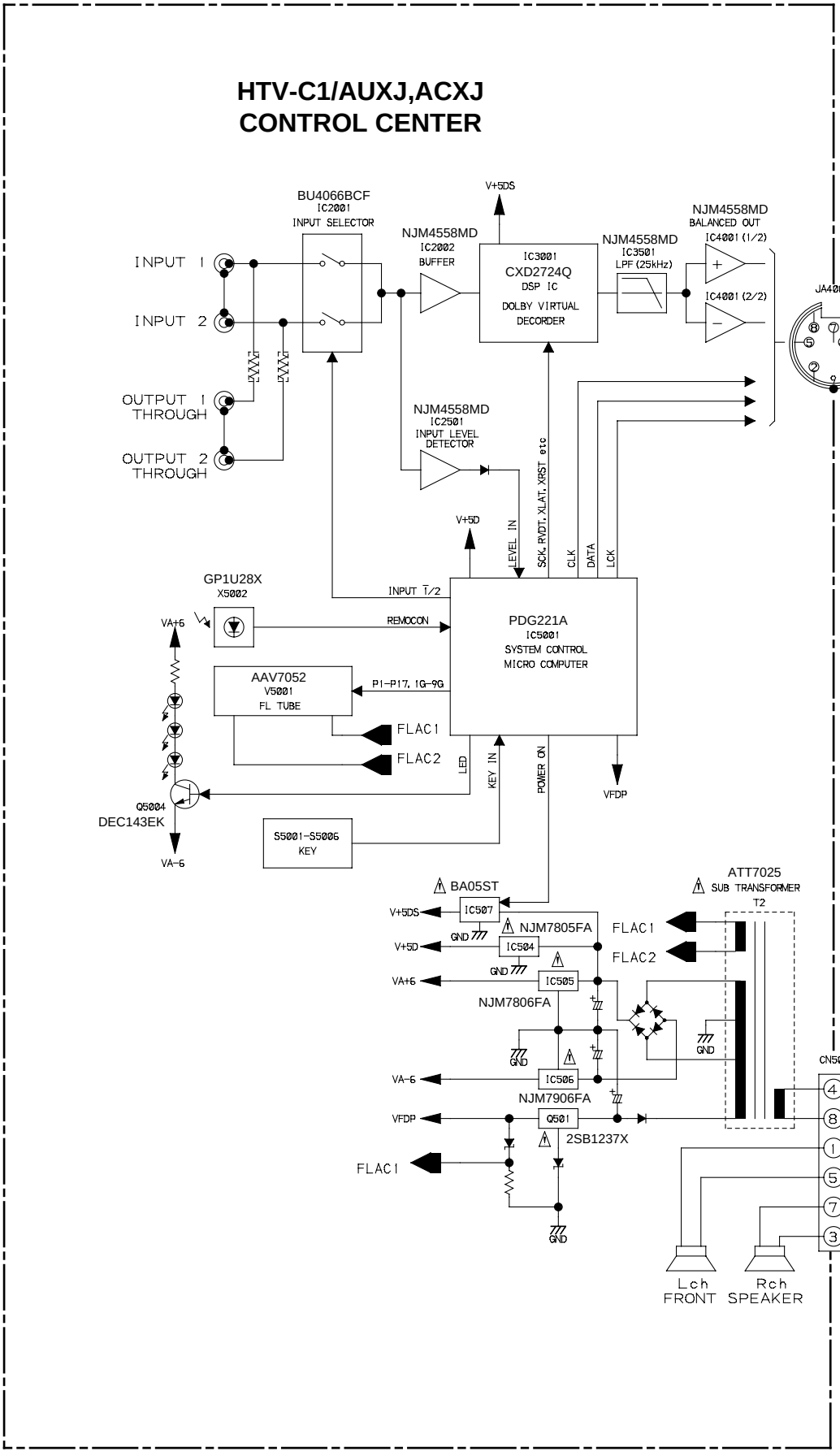
Turn the STAND BY/OFF key to OFF during the power on or unplug the power cord from the AC socket.

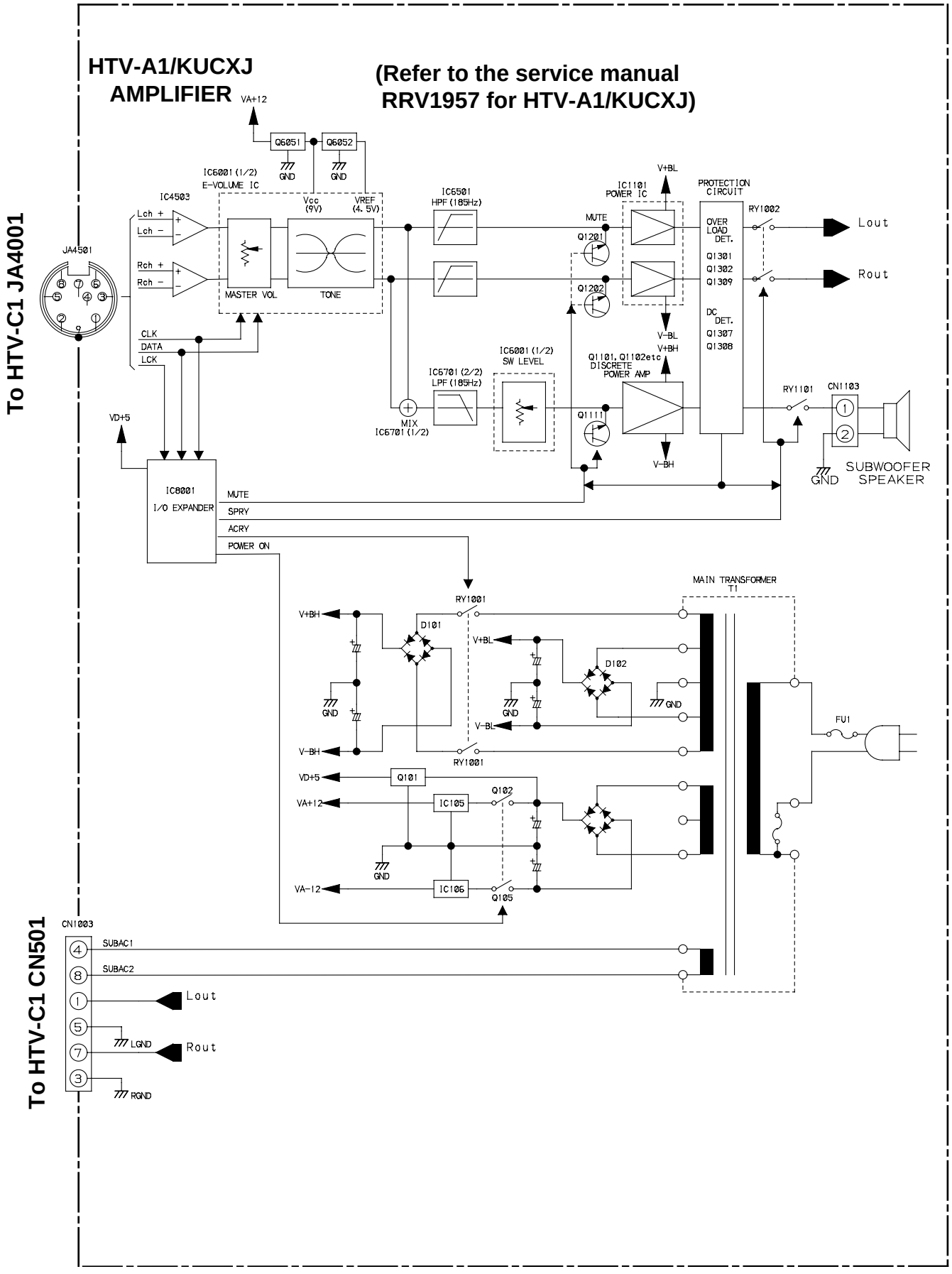
7.2.2 SINGLE OPERATION METHOD

HTV system doesn't move if it is not the combination of HTV-C1 and HTV-A1 fundamentally.
AC26V is added to the sub-transformer (T2) when the HTV-C1 is separate and you must diagnose it. (All the functions can't be validated.)



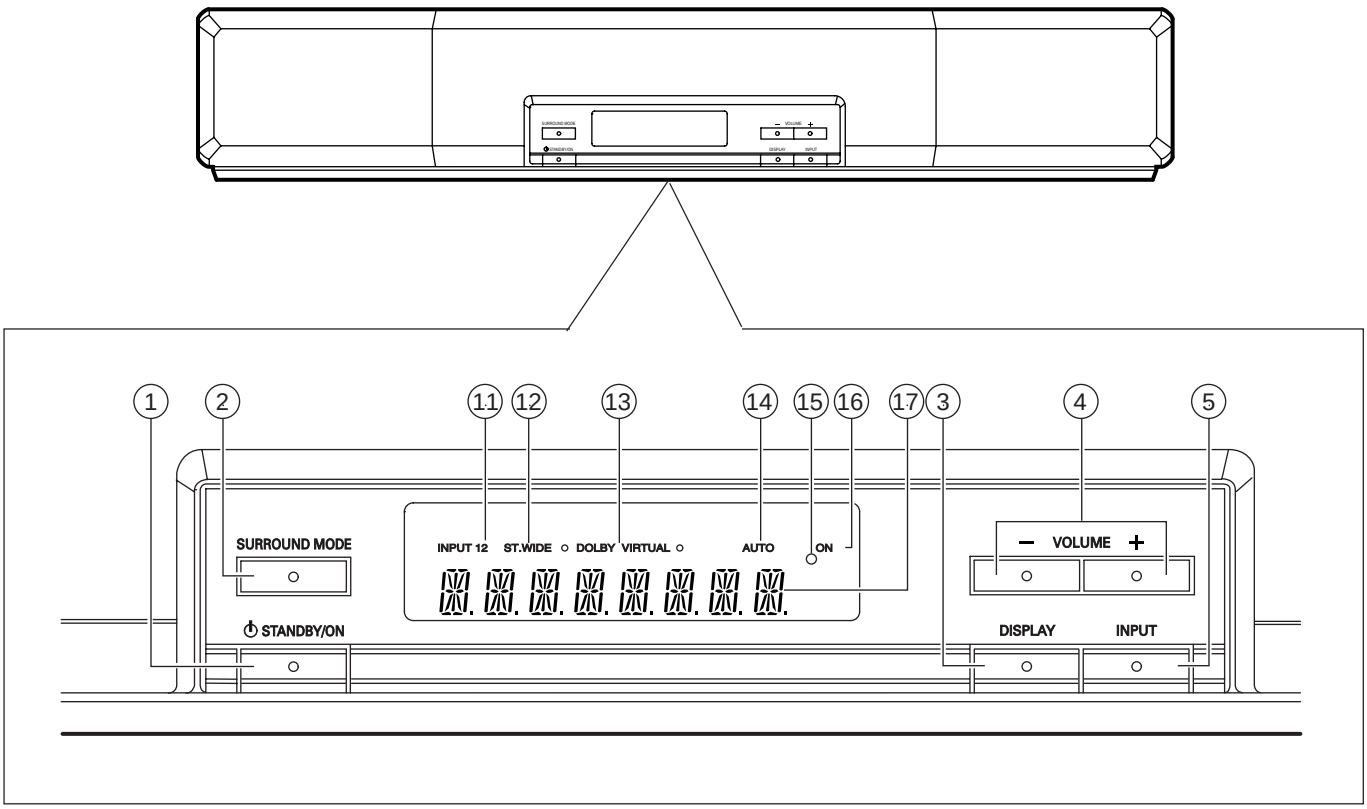
7.3 BLOCK DIAGRAM




HTV-A1/KUCXJ
AMPLIFIER
(Refer to the service manual
RRV1957 for HTV-A1/KUCXJ)
To HTV-C1 JA4001
To HTV-C1 CN501
VA+12
Q6051
Q6052
GND
IC6001 (1/2)
E-VOLUME IC
IC4503
Vcc
(9V)
VREF
(4.5V)
MASTER VOL
TONE
IC6501
HPF (185Hz)
IC1101
POWER IC
PROTECTION
CIRCUIT
OVER
LOAD
DET.
Q1301
Q1302
Q1309
DC
DET.
Q1307
Q1308
RY1002
Lout
Rout
MUTE
Q1201
Q1202
V-BL
V+BH
V+BL
JA4501
Lch +
Lch −
Rch +
Rch −
CLK
DATA
LCK
IC6001 (1/2)
SW LEVEL
IC6701 (2/2)
LPF (185Hz)
MIX
IC6701 (1/2)
Q1101, Q1102etc
DISCRETE
POWER AMP
Q1111
V-BH
RY1101
CN1103
SUBWOOFER
SPEAKER
VD+5
IC8001
I/O EXPANDER
MUTE
SPRY
ACRY
POWER ON
MAIN TRANSFORMER
T1
RY1001
D101
D102
V+BH
V-BH
V+BL
V-BL
FU1
Q101
Q102
IC105
IC106
Q105
VD+5
VA+12
VA-12
CN1003
SUBAC1
SUBAC2
Lout
LGND
Rout
RGND

8. PANEL FACILITIES AND SPECIFICATIONS

Control Center



① ⏻ STANDBY/ON switch

Turns the power ON/OFF (Standby).

Auto Standby Function

The unit is equipped with a function that will automatically turn the power ON/OFF (Standby) according to the presence or absence of an input signal.

- When the power is ON, the AUTO indicator will be illuminated. Standby status will automatically be engaged if there is no input signal for 5 minutes.
- If the selected input terminal receives an input signal while the AUTO indicator is illuminated (Standby status is engaged), the power will automatically be turned ON.
- If power to the unit has been turned OFF (Standby status is engaged) using the STANDBY/ON button on either the unit or the remote control, Standby status will remain engaged even if the selected input terminal receives an input signal.

② SURROUND MODE button

Selects Surround Mode.

③ DISPLAY button

When pressed once, displays each setting in sequence for 2 seconds; when pressed again, switches to Dimmer Mode, changing the brightness of the display.

④ VOLUME+, – buttons

⑤ INPUT button

Selects the input device.

⑪ INPUT indicator

When the INPUT 1 terminal is selected, “1” is illuminated; when the INPUT 2 terminal is selected, “2” is illuminated.

⑫ ST.WIDE indicator

Lights up when Surround Mode is switched to “STEREO WIDE.”

⑬ DOLBY VIRTUAL indicator

Lights up when Surround Mode is switched to “DOLBY VIRTUAL.”

⑭ AUTO indicator

Lights up when Auto Standby status is engaged.

⑮ Standby indicator

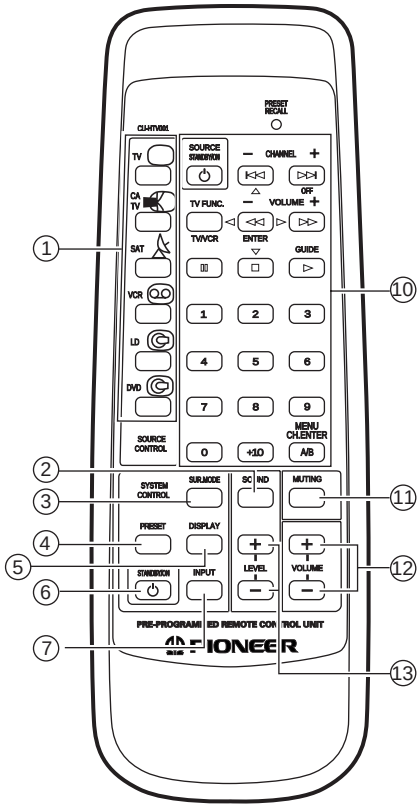
Lights up when the power is OFF (Standby status) . Goes out when the power is turned ON.

⑯ ON indicator

Lights up when the power is turned ON. This is the only indicator that will stay illuminated even when the Display is turned OFF.

⑰ Character display

Remote Control Unit



① SOURCE CONTROL buttons

Select the device to be operated.

② SOUND button

Selects the sound control function (BASS/TREBLE/BALANCE/S.W. LEVEL/EFFECT).

③ SUR.(surround) MODE button

Selects Surround Mode.

④ PRESET button

To preset other brand devices, press any one of the SOURCE CONTROL buttons together with this button.

⑤ DISPLAY button

When pressed once, displays each setting in sequence for 2 seconds; when pressed again, switches to Dimmer Mode, changing the brightness of the display.

⑥ ⏻ STANDBY/ON button

Turns the Home Theater System power ON/OFF (Standby).

⑦ INPUT button

Selects the input device.

⑩ Other device operation buttons

Select the device to be operated with the SOURCE CONTROL buttons and then operate the device.

⑪ MUTING button

Press to mute the volume.

⑫ VOLUME +,– button(s)

Use to adjust the volume.

⑬ LEVEL +,– button(s)

Use to adjust the sound control mode selected with the SOUND button.

■ SPECIFICATIONS

Input (Sensitivity/Impedance)
INPUT 1, 2 ..... 200 mV/22 kΩ

Speaker Section
Front L/R ..... 8.7 cm cone type

Miscellaneous
Dimensions
Control center ..... 610 (W) × 110 (H) × 166 (D) mm
24-3/16 (W) × 4-5/16 (H) × 6-9/16 (D) in
Weight (without package)
Control center ..... 3.8 kg (8 lb 6 oz)

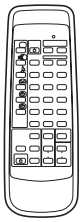
Furnished Parts
System cable A 1
System cable B 1
Audio cord 1
Mount kit 1
Dry Cell Batteries (AA/R6P) 2
Remote Control Unit 1
Operating Instructions 1
Warranty card 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

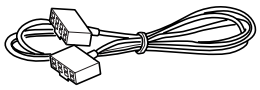
Manufactured under license from the Dolby Laboratories.
DOLBY and the double-D symbol ⧫⧫ are trademarks of Dolby Laboratories.

Checking Accessories (These parts are included in the accessory box.)

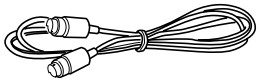
• Remote control unit (AZN7713)



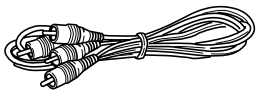
• System cable A (ADX7239) (L=3.0m)



• System cable B (ADE7023) (L=3.0m)

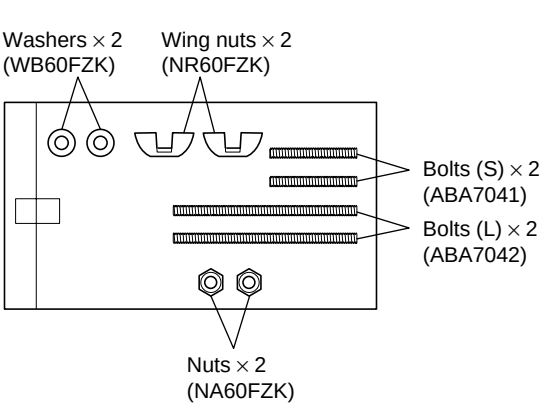


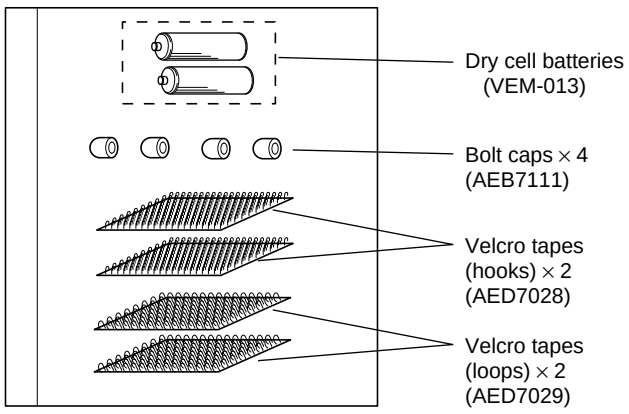
• Audio cord (VDE1033) (L=1.5m)



• Operating instructions
• Warranty card
• Quick instructions guide

• Mount kit (AEA7021)





PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRV1970

SPEAKER SYSTEM

HTV-SW2 KUCXC

- **This product is component of system.**
  For the operating instructions, refer to the service manual RRV1978 for HTV-C2.

65S

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

FOR PRECAUTION OF REASSEMBLY AND DISASSEMBLY

- The woofer is attached to the baffle by 4 external screws. To detach it, unfasten those screws. When attaching it, face its terminal backward.
- The Amp is attached to the back board by 9 external screws. To detach it, unfasten those screws and pull straight it toward back. To detach it, first remove connector on bottom side. Then remove it.

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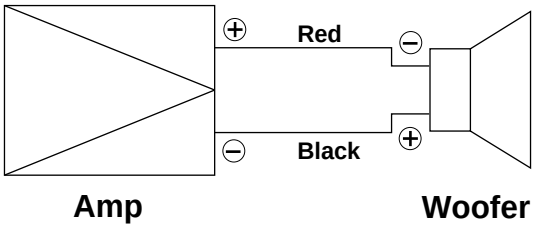
PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

Mark	No.	Description	Part No.
NSP		Cabinet	254940
NSP		AMP	HTV-A2/KUCXJ
		Logo 56	255601
		Connecting Cord	254915
NSP		Absorbent	254886
		Foot	255116
NSP		Plastic Port Tube 48	258368
NSP		Coded Label	244126
NSP		Warning Label	257850
		Speaker (Woofer)	254960
		Screw (for Woofer and Amp)	222016
		Bind Tapping Screw (for Foot)	222539

SCHEMATIC DIAGRAM



PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRV1979

AMPLIFIER
HTV-A2

● Refer to the service manual RRV1957 for HTV-A1/KUCXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	HTV-A2		
KUCXJ	○	AC120V	

● **The HTV-A2 is a part of the Powered Subwoofer HTV-SW2. The Powered Subwoofer HTV-SW2 is a part of the Hometheater System HTV-2.**

Hometheater System
HTV-2
(service manual RRV1977)
- **Control Center**
  HTV-C2 (service manual RRV1978)
- **Powered Subwoofer**
  HTV-SW2 (service manual RRV1970)
  - **Amplifier**
    HTV-A2 (this service manual)

● **This product does not operate normally by itself. Please connect it to the Control Center HTV-C2 for operating inspection. If operation confirmation for the unit by itself can not be avoided, refer to " 7.2 DIAGNOSIS " on the service manual RRV1957.**

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CONTRAST OF MISCELLANEOUS PARTS

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

HTV-A2/KUCXJ and HTV-A1/KUCXJ are constructed the same except for the following:

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			HTV-A1/KUCXJ	HTV-A2/KUCXJ	
		PCB ASSEMBLIES			
		MOTHER ASSY	AWM7368	AWM7370	
P5– 1		├ AFPS ASSY	AWU7073	AWU7079	∗1
P5– 2		├ PAMP ASSY	AWU7074	AWU7080	∗1
P5– 3		├ PT PRI ASSY	AWU7075	AWU7081	∗2
P5– 4		└ PT SEC ASSY	AWU7076	AWU7082	∗3
		EXTERIOR			
P5– 6	⚠	Power Transformer (T1)	ATS7212	ATS7213	
P5– 7	⚠	Fuse (5A, FU1)	REK1083	Not used	
P5– 7	⚠	Fuse (6.3A, FU1)	Not used	REK1085	
P5–11	NSP	Heat Sink	ANH7076	ANH7079	
P5–26	NSP	Name Label	AAX7614	AAX7637	
	NSP	Fuse Card	Not used	AAX2374	∗4

∗1 Refer to " CONTRAST OF PCB ASSEMBLIES " .
∗2 Although AWU7075 and AWU7081 are different in part number, they have the same service parts.
∗3 Although AWU7076 and AWU7082 are different in part number, they have the same service parts.
∗4 For PT PRI ASSY.

■ CONTRAST OF PCB ASSEMBLIES

A AFPS ASSY

AWU7079 and AWU7073 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWU7073	AWU7079	
⚠	C101, C102	ACH7007 (4700µF/DC63V)	ACH1249 (4700µF/DC71V)	

D PAMP ASSY

AWU7080 and AWU7074 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWU7074	AWU7080	
⚠	IC1101	STK407-040B	STK407-050B	
⚠	Q1101	2SC5198(P)	2SC5200(P)	
⚠	Q1102	2SA1941(P)	2SA1943(P)	
	R1110	RD1/4PM112J	RD1/4PM911J	
⚠	R1112	RD1/4PMF680J	RD1/4PMF910J	
	R1209, R1210	RS1/10S122J	RS1/10S102J	

Service Manual

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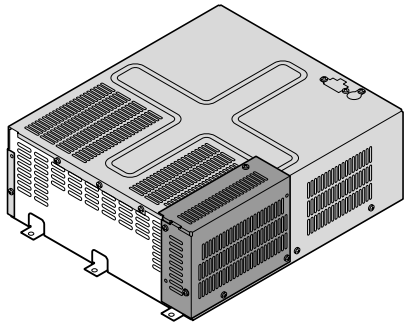

ORDER NO.
RRV1957

AMPLIFIER
HTV-A1

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	HTV-A1		
KUCXJ	○	AC120V	

- **The HTV-A1 is a part of the Powered Subwoofer HTV-SW1. The Powered Subwoofer HTV-SW1 is a part of the Hometheater System HTV-1.**

Hometheater System HTV-1 (service manual RRV1968)
- **Control Center HTV-C1 (service manual RRV1960)**
- **Powered Subwoofer HTV-SW1 (service manual RRV1969)**
  - **Amplifier HTV-A1 (this service manual)**

- **This product does not operate normally by itself. Please connect it to the Control Center HTV-C1 for operating inspection. If operation confirmation for the unit by itself can not be avoided, refer to "7.2 DIAGNOSIS".**

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 4
3. SCHEMATIC DIAGRAM 6
4. PCB CONNECTION DIAGRAM 14
5. PCB PARTS LIST 20
6. ADJUSTMENT 22
7. GENERAL INFORMATION 22
   7.1 IC 22
   7.2 DIAGNOSIS 24
   7.3 BLOCK DIAGRAM 26
8. PANEL FACILITIES AND SPECIFICATIONS 28

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

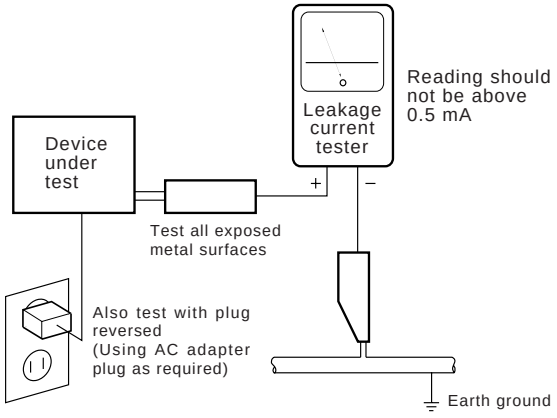
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

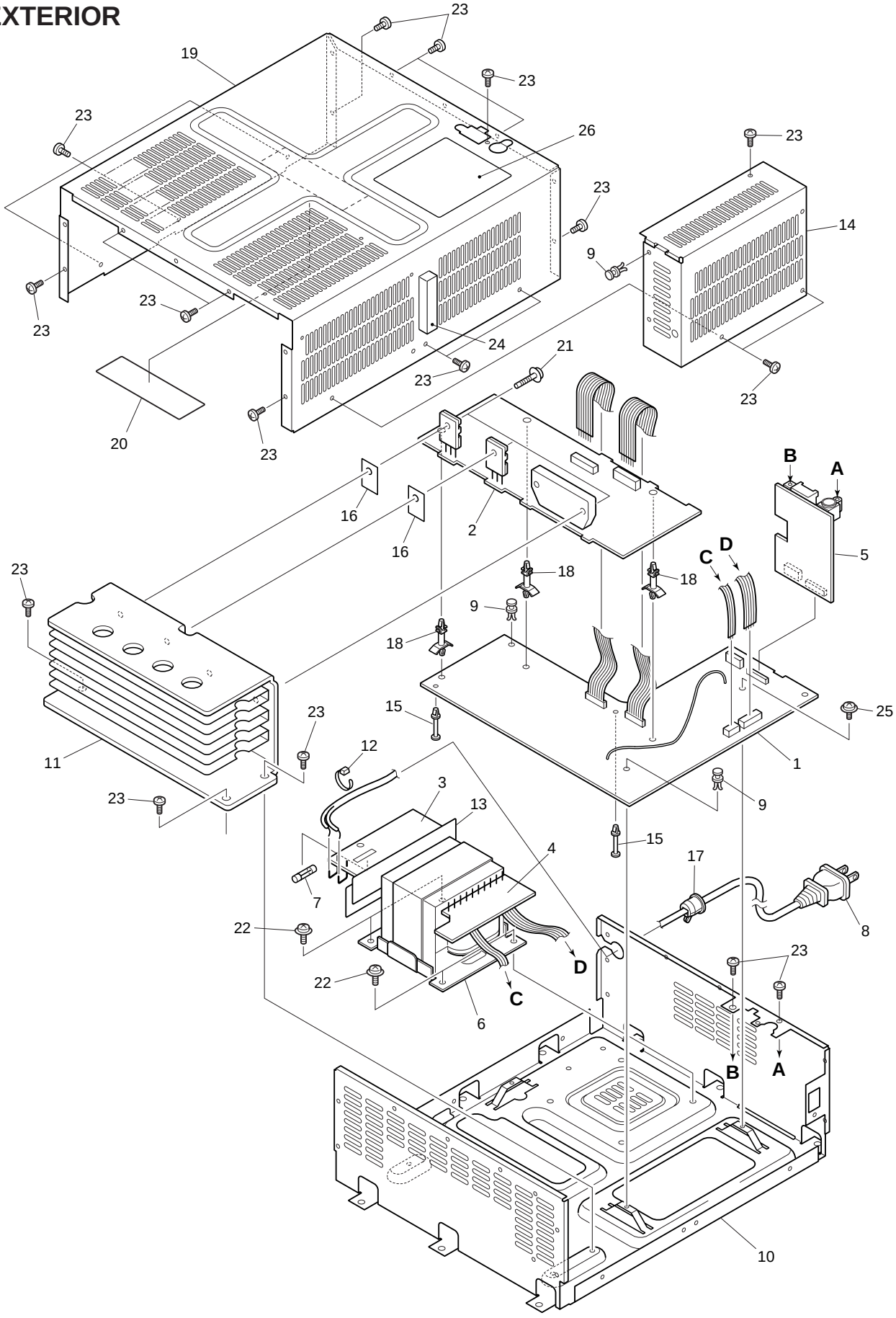
Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage , etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

■ EXTERIOR



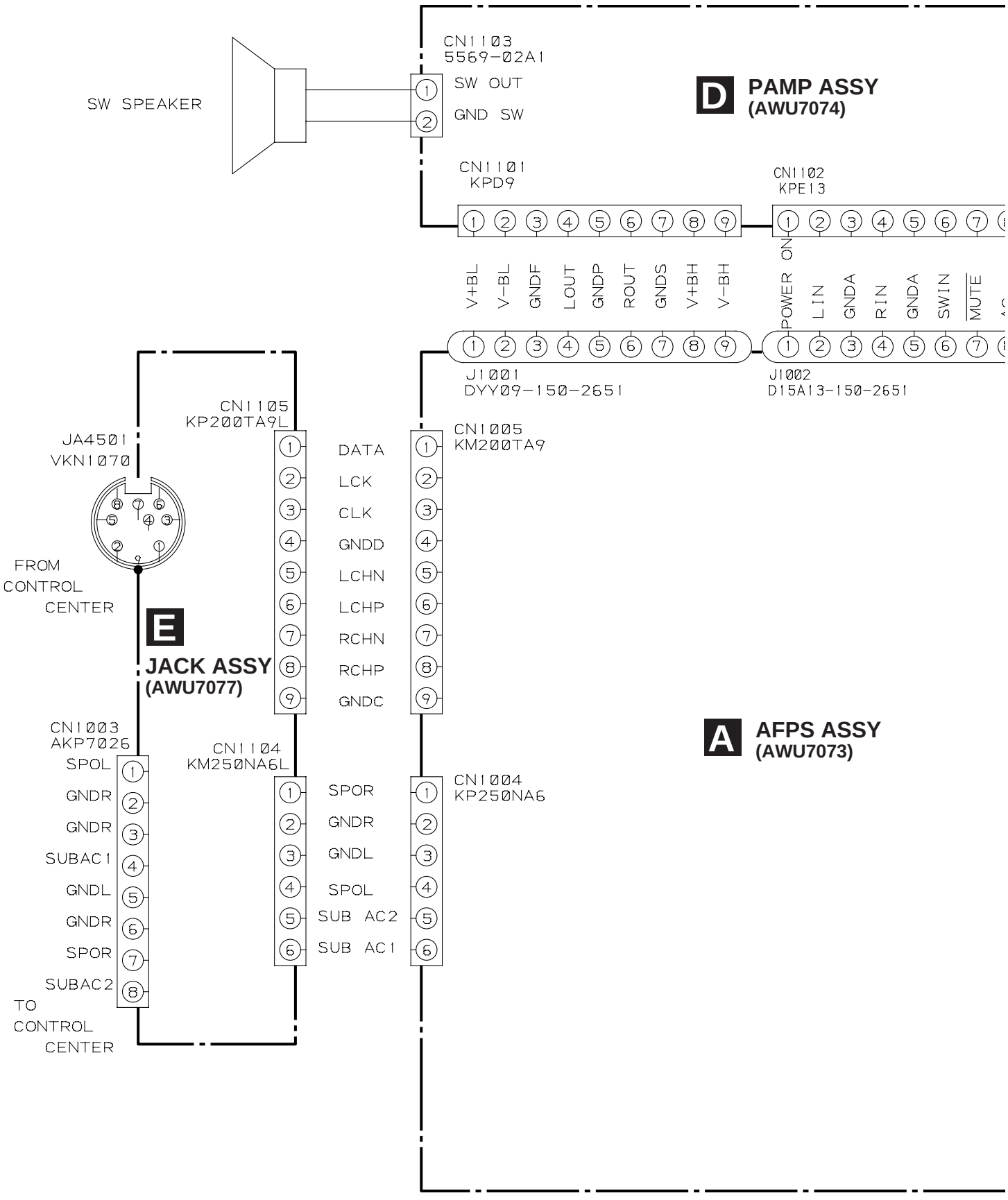
NOTES : ● *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screw adjacent to ▼ mark on the product are used for disassembly.*

EXTERIOR PARTS LIST

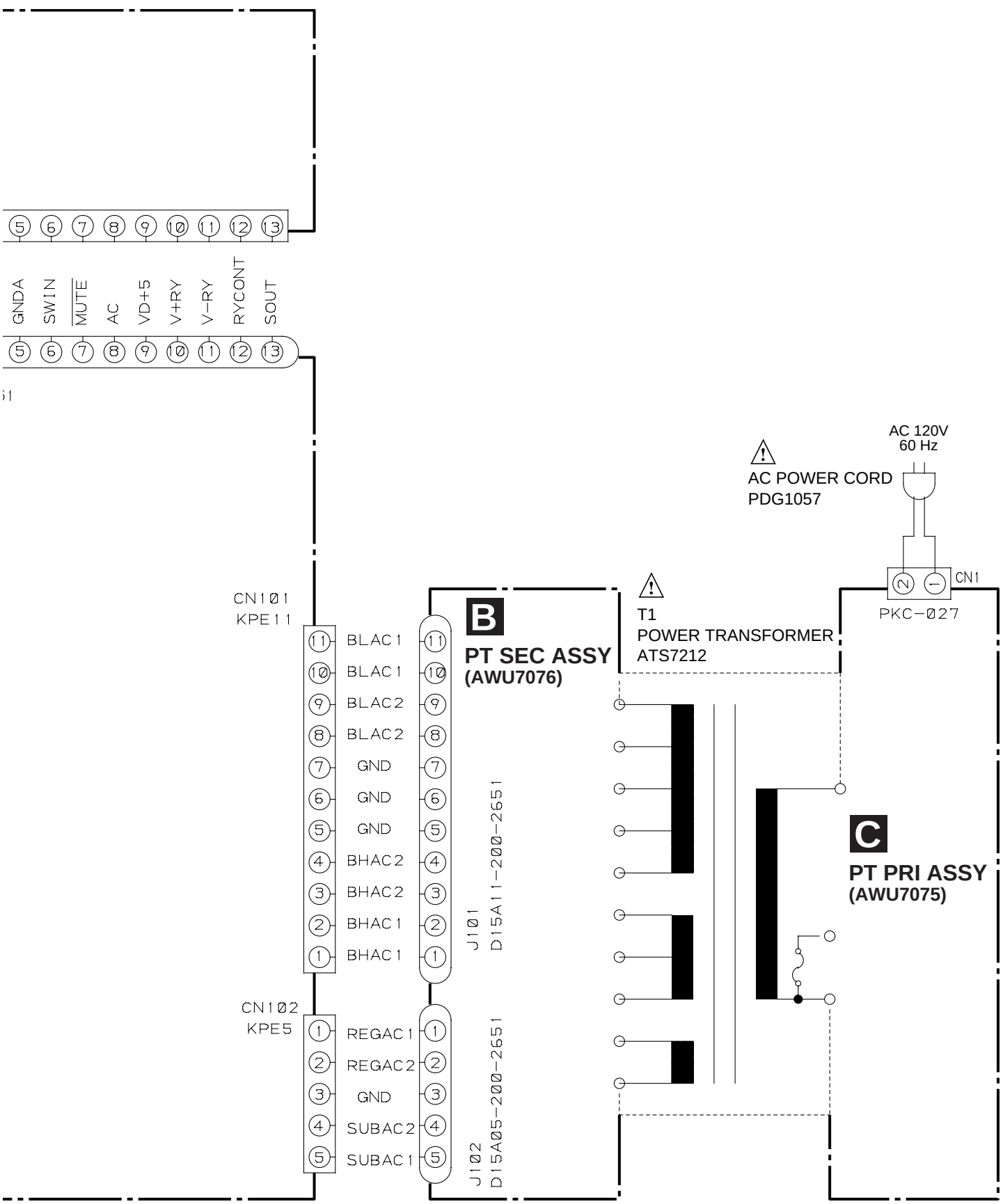
Mark	No.	Description	Part No.
	1	AFPS ASSY	AWU7073
	2	PAMP ASSY	AWU7074
	3	PT PRI ASSY	AWU7075
	4	PT SEC ASSY	AWU7076
	5	JACK ASSY	AWU7077
⚠	6	Power Transformer (T1)	ATS7212
⚠	7	Fuse (5A, FU1)	REK1083
⚠	8	AC Power Cord	PDG1057
	9	Push Rivet	AEC7149
NSP	10	Chassis	ANA7076
NSP	11	Heat Sink	ANH7076
	12	Binder	ZCA-SKB90BK
	13	Barrier	AEC7135
	14	Heat Protector	AEC7136
	15	Mini Card Spacer	AEC7143
	16	Mica Sheet	AEE7010
	17	Strain Relief	CM-22C
NSP	18	PCB Holder	PNW2174
	19	Bonnet Case	AZN7709
	20	65 Label	ORW1069
	21	Screw	ABA-258
	22	Screw	ASZ40P060FMC
	23	Screw	BBZ30P080FMC
	24	Cushion	AEB7123
	25	Screw	IBZ30P080FMC
NSP	26	Name Label	AAX7637

3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTIONS



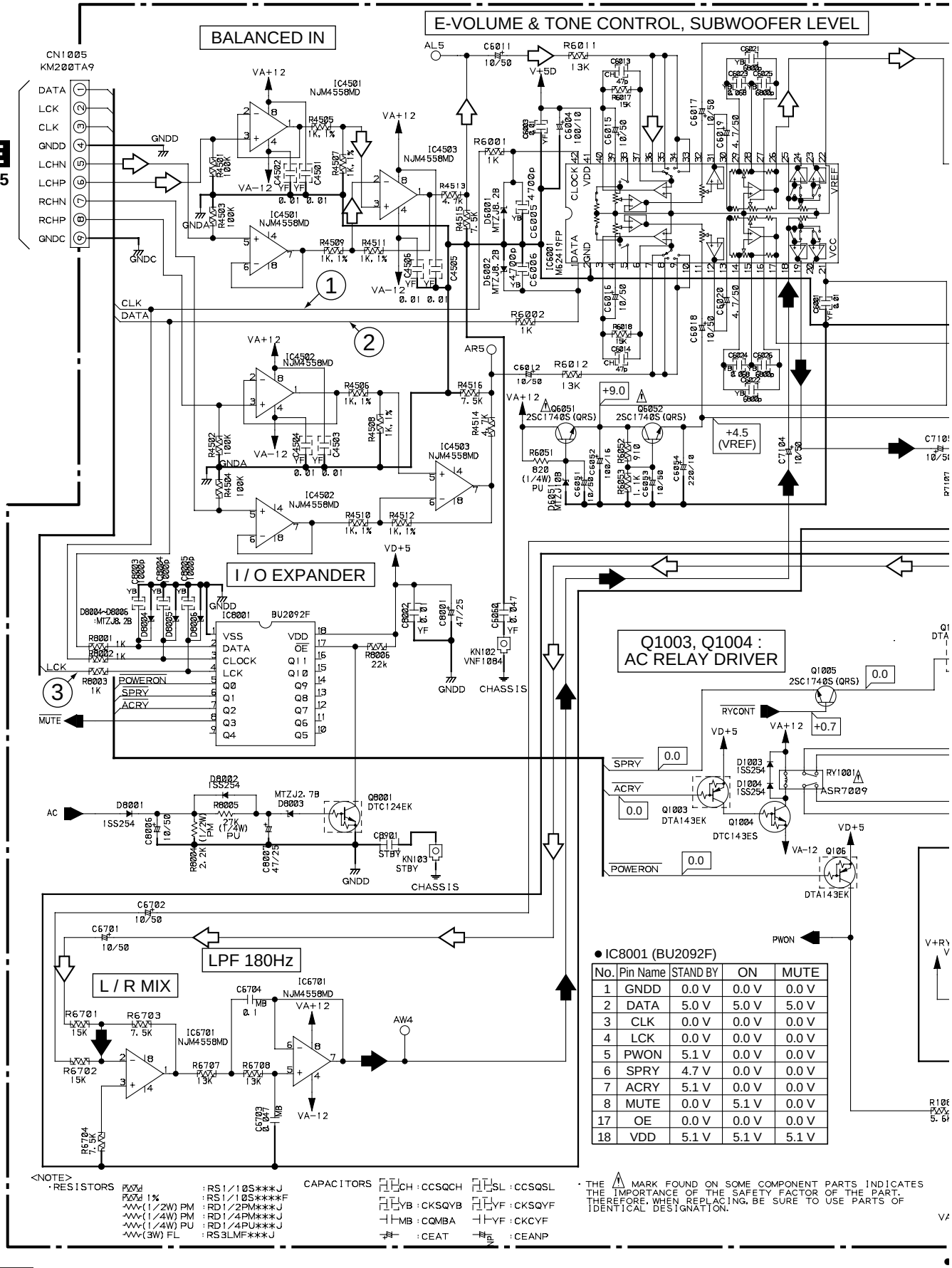
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



SIGNAL ROUTE
: AUDIO SIGNAL (L ch)
: AUDIO SIGNAL (SW ch)

3.2 AFPS, PT SEC AND PT PRI ASSEMBLIES

E
CN1105



● IC8001 (BU2092F)

No.	Pin Name	STAND BY	ON	MUTE
1	GNDD	0.0 V	0.0 V	0.0 V
2	DATA	5.0 V	5.0 V	5.0 V
3	CLK	0.0 V	0.0 V	0.0 V
4	LCK	0.0 V	0.0 V	0.0 V
5	PWON	5.1 V	0.0 V	0.0 V
6	SPRY	4.7 V	0.0 V	0.0 V
7	ACRY	5.1 V	0.0 V	0.0 V
8	MUTE	0.0 V	5.1 V	0.0 V
17	OE	0.0 V	0.0 V	0.0 V
18	VDD	5.1 V	5.1 V	5.1 V

<NOTE>
・RESISTORS
: RS1/10S***J
: RS1/10S****F
: RD1/2PM***J
: RD1/4PM***J
: RD1/4PU***J
: RS3LMF***J

CAPACITORS
CH : CCSQCH
SL : CCSQSL
YB : CKSQYB
YF : CKSQYF
MB : CQMBA
YF : CKCYF
: CEAT
NP : CEANP

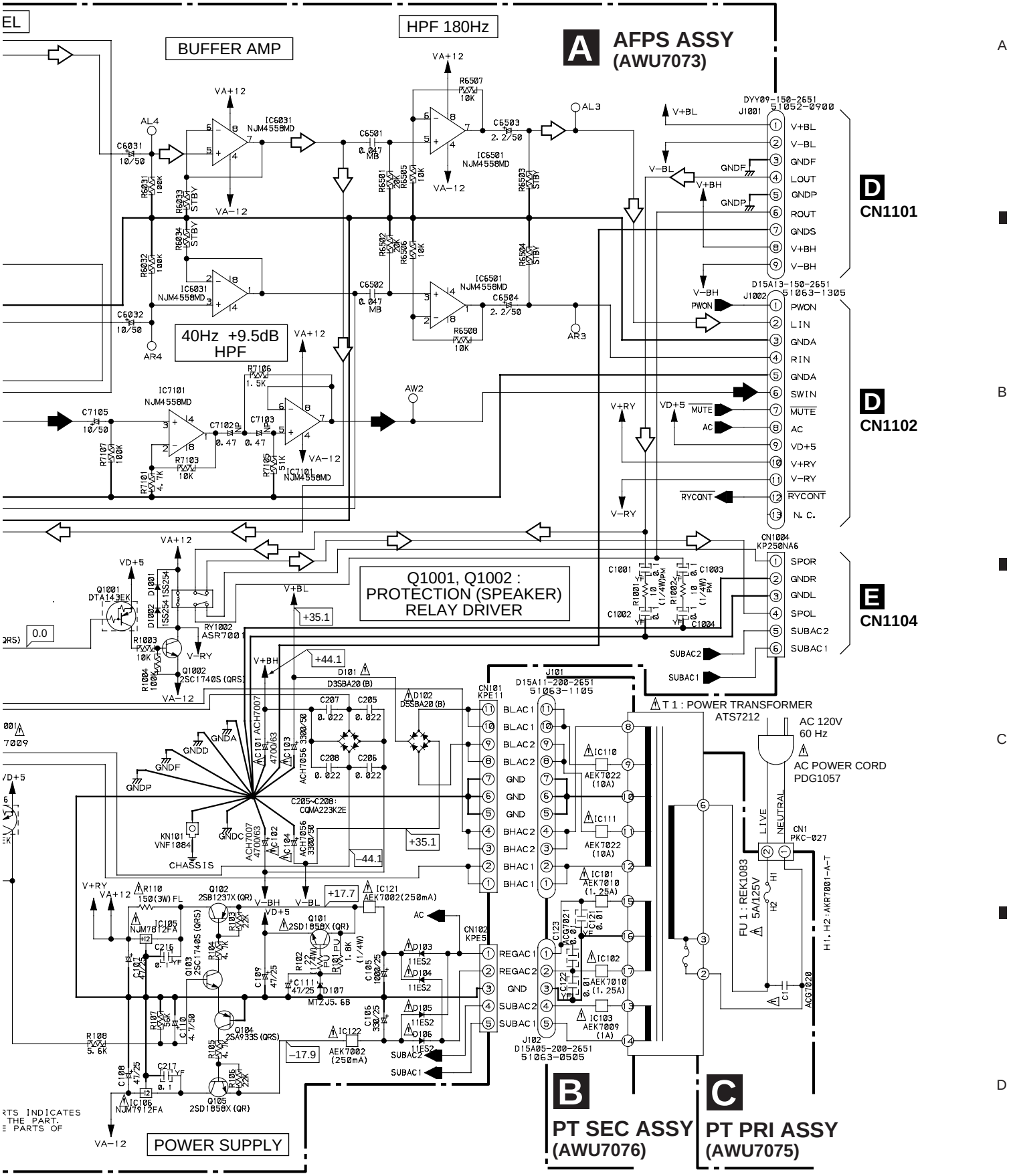
・THE ⚠ MARK FOUND ON SOME COMPONENT PARTS INDICATES THE IMPORTANCE OF THE SAFETY FACTOR OF THE PART. THEREFORE, WHEN REPLACING, BE SURE TO USE PARTS OF IDENTICAL DESIGNATION.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 4911.25 MFD, BY LITTELFUSE INK. FOR IC101 AND IC102(AEK7010).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491010 MFD, BY LITTELFUSE INK. FOR IC110 AND IC111(AEK7022).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491001 MFD, BY LITTELFUSE INK. FOR IC103(AEK7009).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491.250 MFD, BY LITTELFUSE INK. FOR IC121 AND IC122(AEK7002).

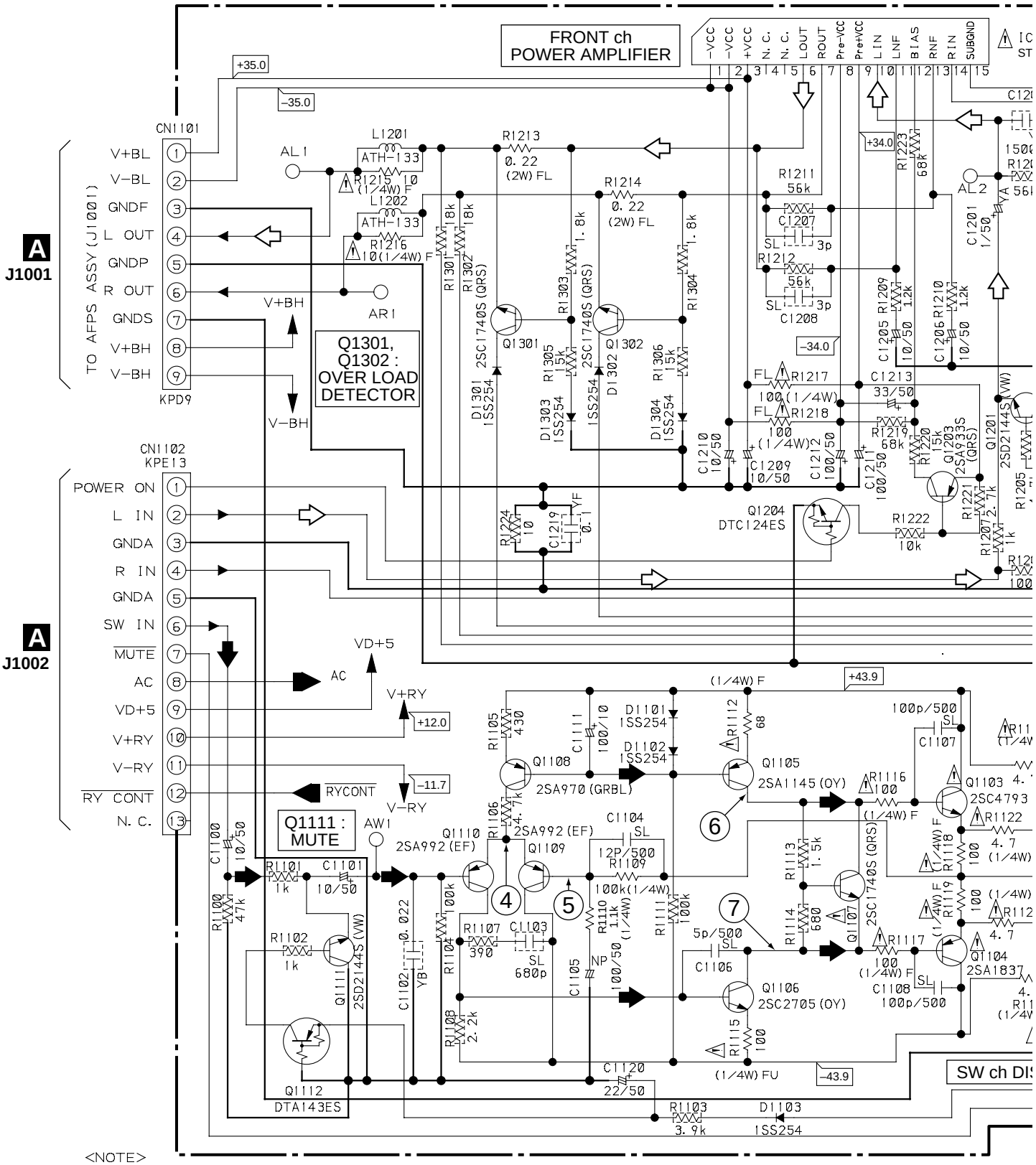


• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE AND RATINGS ONLY.

A B C

3.3 PAMP ASSY



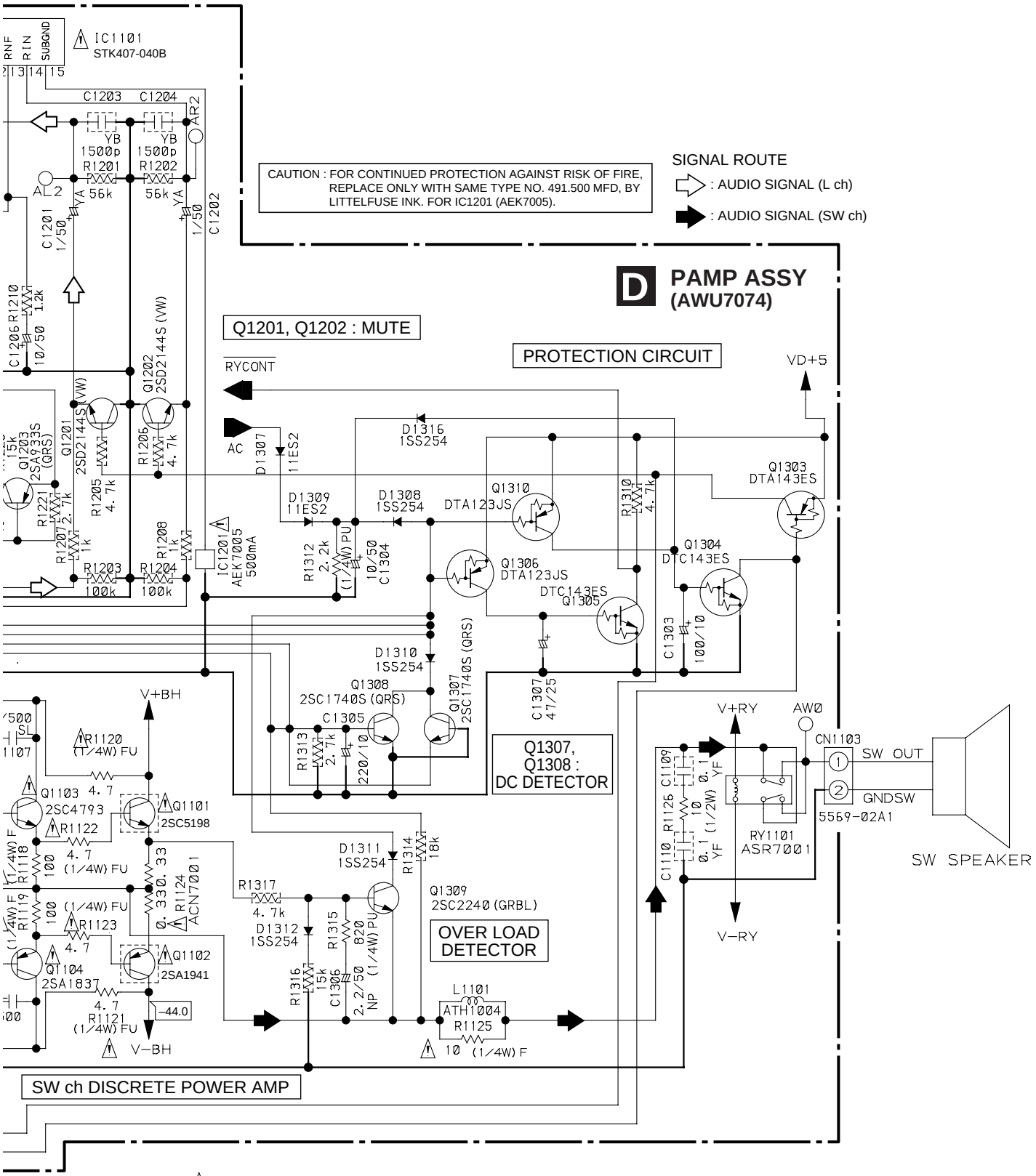
<NOTE>

・ALL RESISTORS ARE IN OHM, 1/10W, 5%
UNLESS OTHERWISE SPECIFIED

(1/4W)	: RD1/4PM***J	(1/2W)	: RD1/2PM***J
(1/4W) PU	: RD1/4PU***J	(1/4W) FL	: RD1/4LMF***J
(1/4W) F	: RD1/4PMF***J		
(1/4W) FU	: RF1/4PS***J		
(2W) FL	: RS2LMF***J		

・CAPACITORS

	: CEAT	SL	: CCCSL
YA	: CEYA	YF	: CKSQYF
NP	: CEANP	YB	: CKSQYB
		SL	: CCSQSL



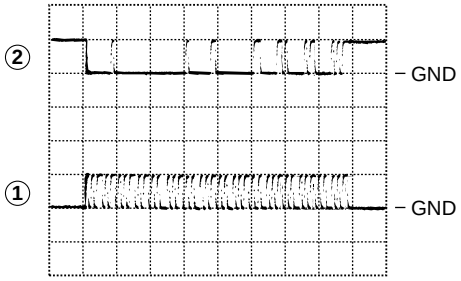
· THE ⚠ MARK FOUND ON SOME COMPONENT PARTS INDICATES THE IMPORTANCE OF THE SAFETY FACTOR OF THE PART. THEREFORE, WHEN REPLACING, BE SURE TO USE PARTS OF IDENTICAL DESIGNATION.

Waveforms

Note: The encircled numbers denote measuring point in the schematic diagram.

1 IC6001-Pin1 (DATA) 0.5 V/div 1 mS/sec

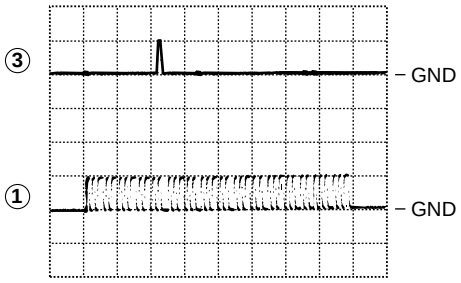
2 IC6001-Pin42 (CLK) 0.5 V/div 1 mS/sec



Measurement condition : volume Min →1

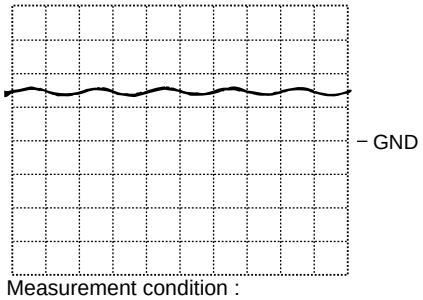
3 IC8001-Pin4 (LCK) 0.5 V/div 1 mS/sec

1 IC6001-Pin42 (CLK) 0.5 V/div 1 mS/sec



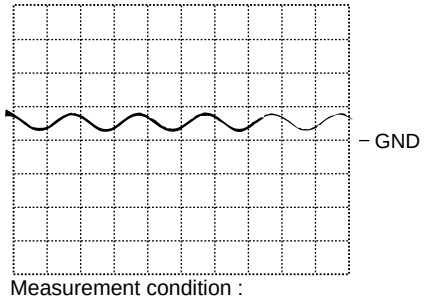
Measurement condition : volume Min →1

4 Q1110-Emitter 50 mV/div 5 mS/sec



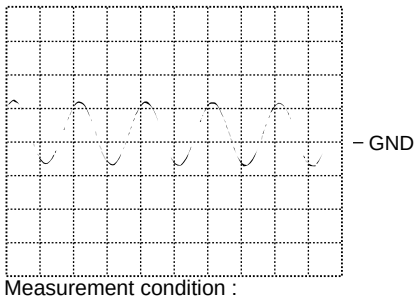
Measurement condition :
SW ch output signal f =100Hz, 1W

5 Q1109-Base 20 mV/div 5 mS/sec



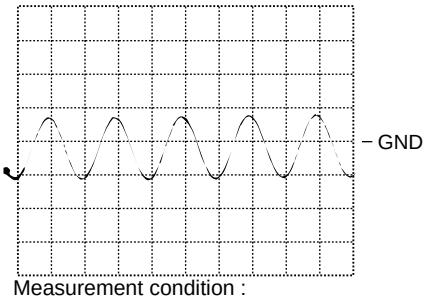
Measurement condition :
SW ch output signal f =100Hz, 1W

6 Q1105-Collector 0.5 V/div 5 mS/sec



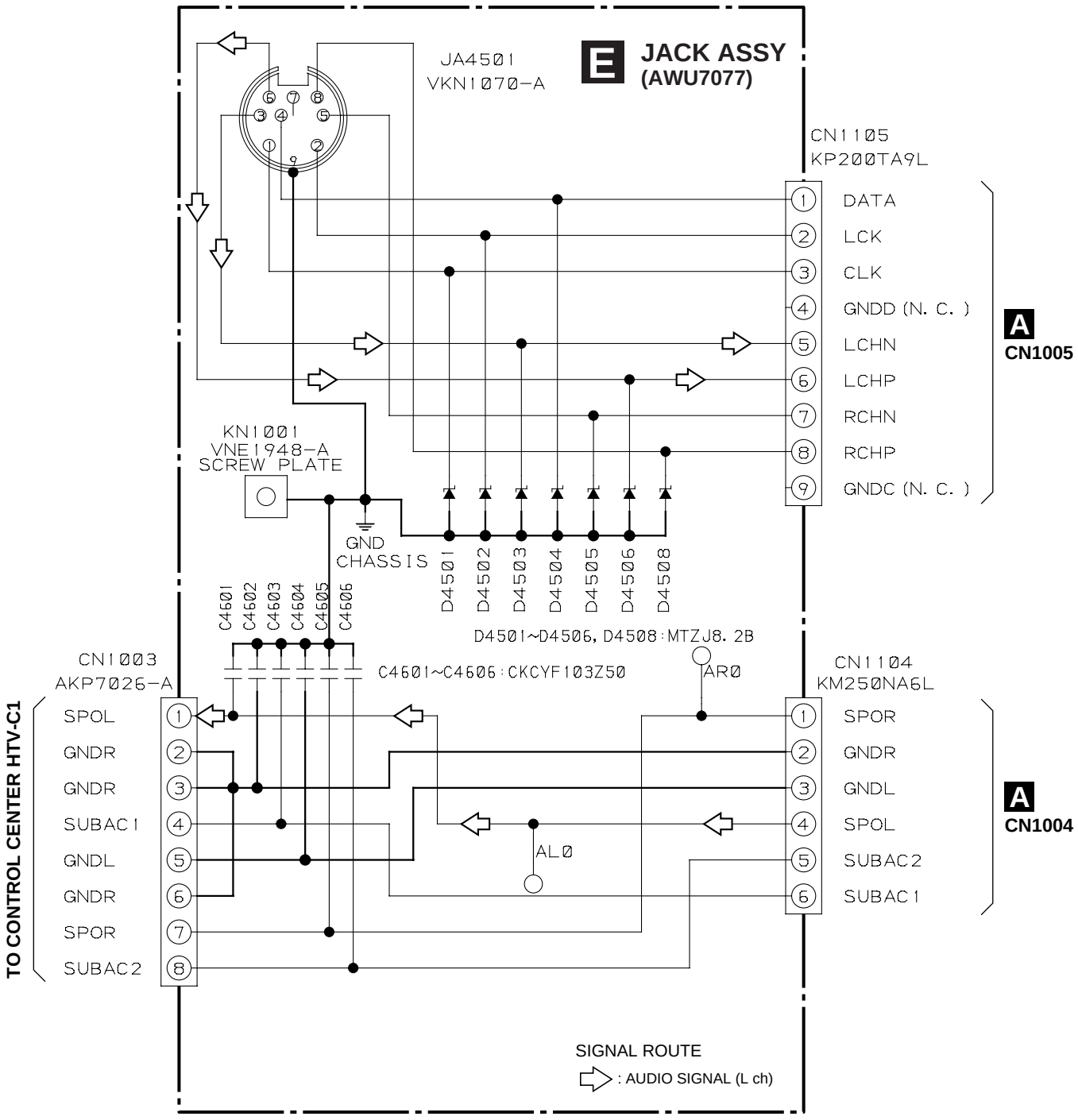
Measurement condition :
SW ch output signal f =100Hz, 1W

7 Q1106-Collector 0.5 V/div 5 mS/sec



Measurement condition :
SW ch output signal f =100Hz, 1W

3.4 JACK ASSY


JACK ASSY
(AWU7077)
JA4501
VKN1070-A
CN1105
KP200TA9L
1 DATA
2 LCK
3 CLK
4 GNDD (N. C.)
5 LCHN
6 LCHP
7 RCHN
8 RCHP
9 GNDC (N. C.)
A
CN1005
KN1001
VNE1948-A
SCREW PLATE
GND
CHASSIS
D4501
D4502
D4503
D4504
D4505
D4506
D4508
C4601
C4602
C4603
C4604
C4605
C4606
D4501~D4506, D4508 : MTZJ8. 2B
C4601~C4606 : CKCYF103Z50
AR0
AL0
CN1003
AKP7026-A
TO CONTROL CENTER HTV-C1
1 SPOL
2 GNDR
3 GNDR
4 SUBAC1
5 GNDL
6 GNDR
7 SPOR
8 SUBAC2
CN1104
KM250NA6L
1 SPOR
2 GNDR
3 GNDL
4 SPOL
5 SUBAC2
6 SUBAC1
A
CN1004
SIGNAL ROUTE
: AUDIO SIGNAL (L ch)

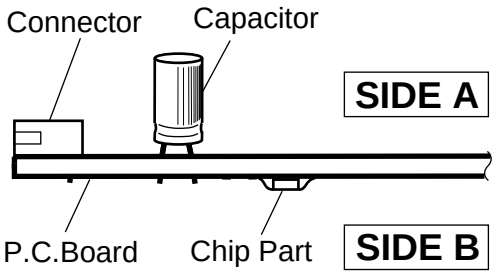
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

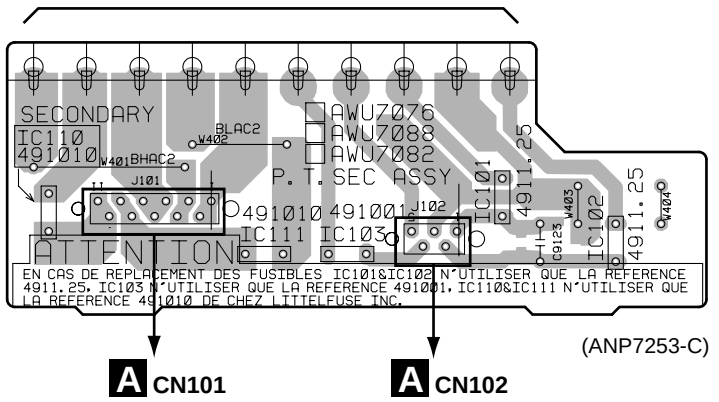
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 PT SEC ASSEMBLY

B PT SEC ASSY

SIDE A

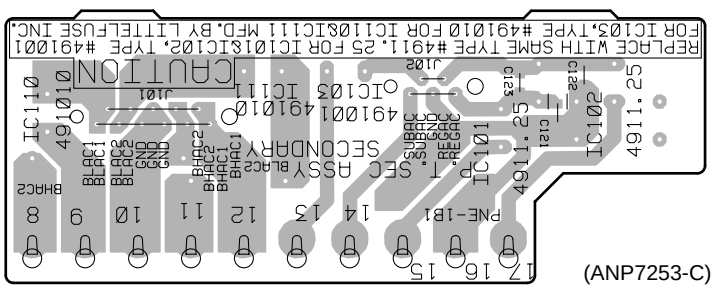


IC110,IC101

IC111,IC103,IC102

(ANP7253-C)

SIDE B

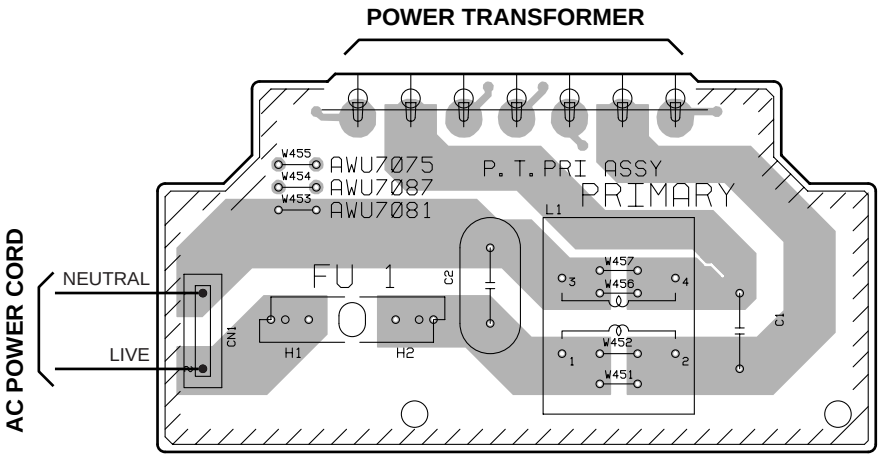


(ANP7253-C)

4.2 PT PRI AND JACK ASSEMBLIES

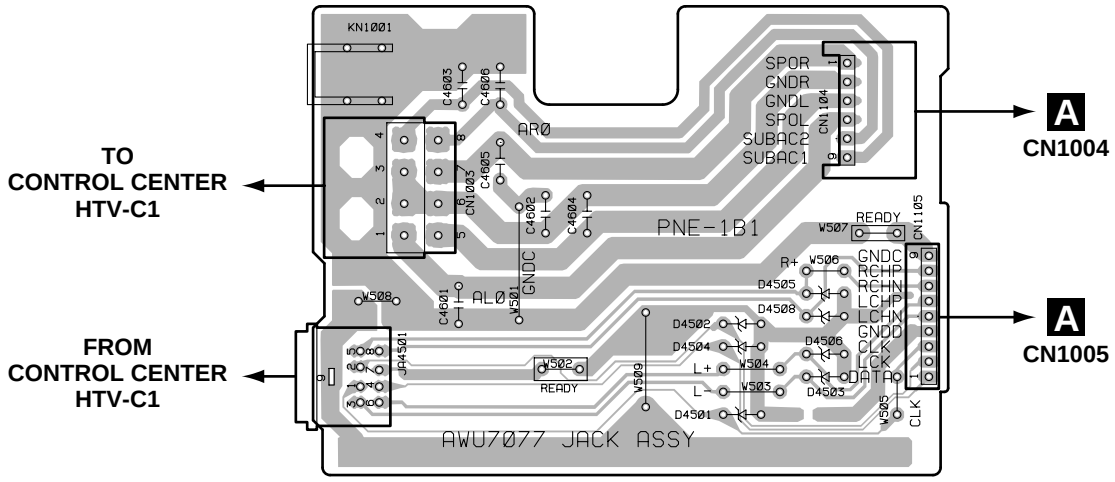
SIDE A

C PT PRI ASSY



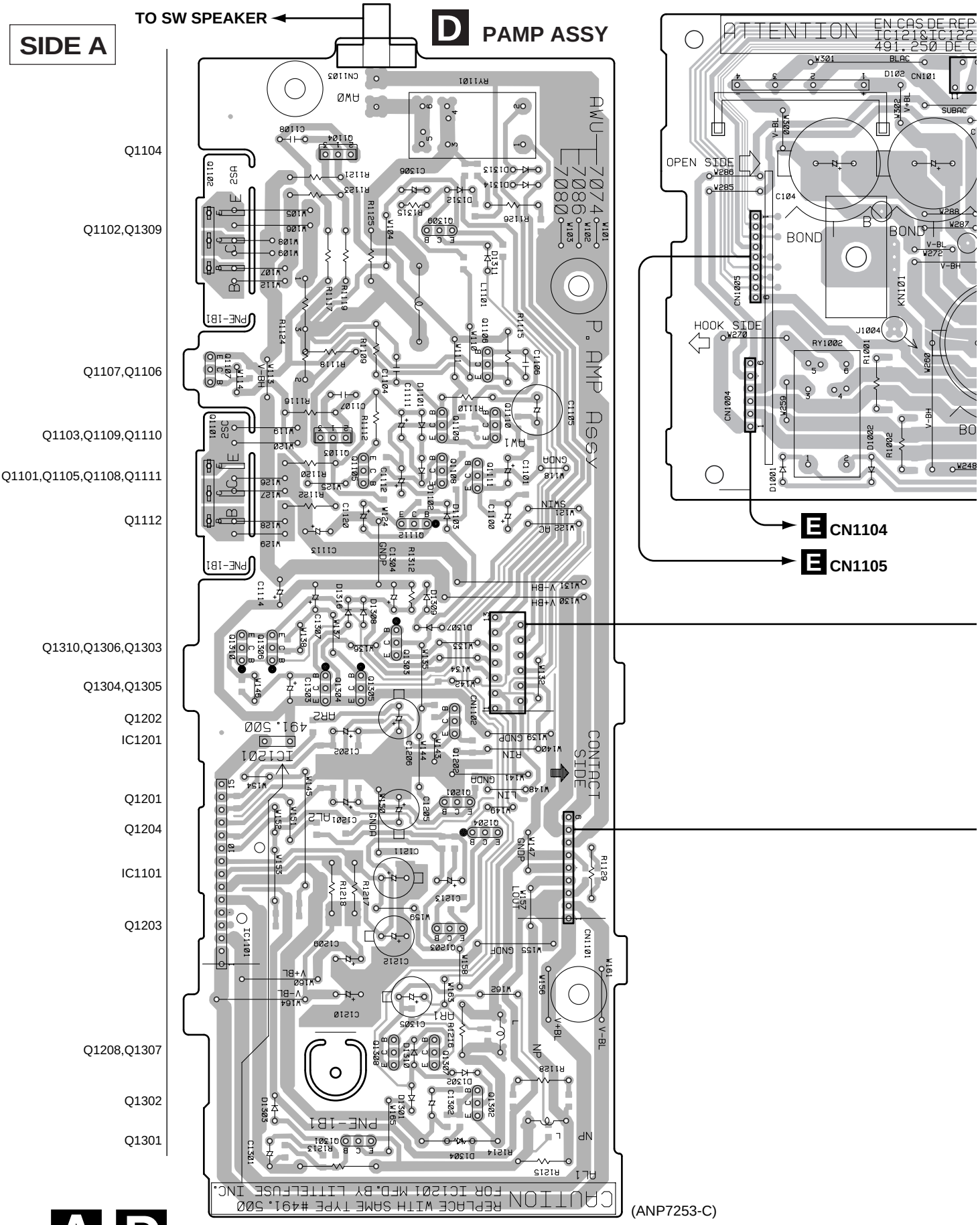
(ANP7253-C)

E JACK ASSY



(ANP7253-C)

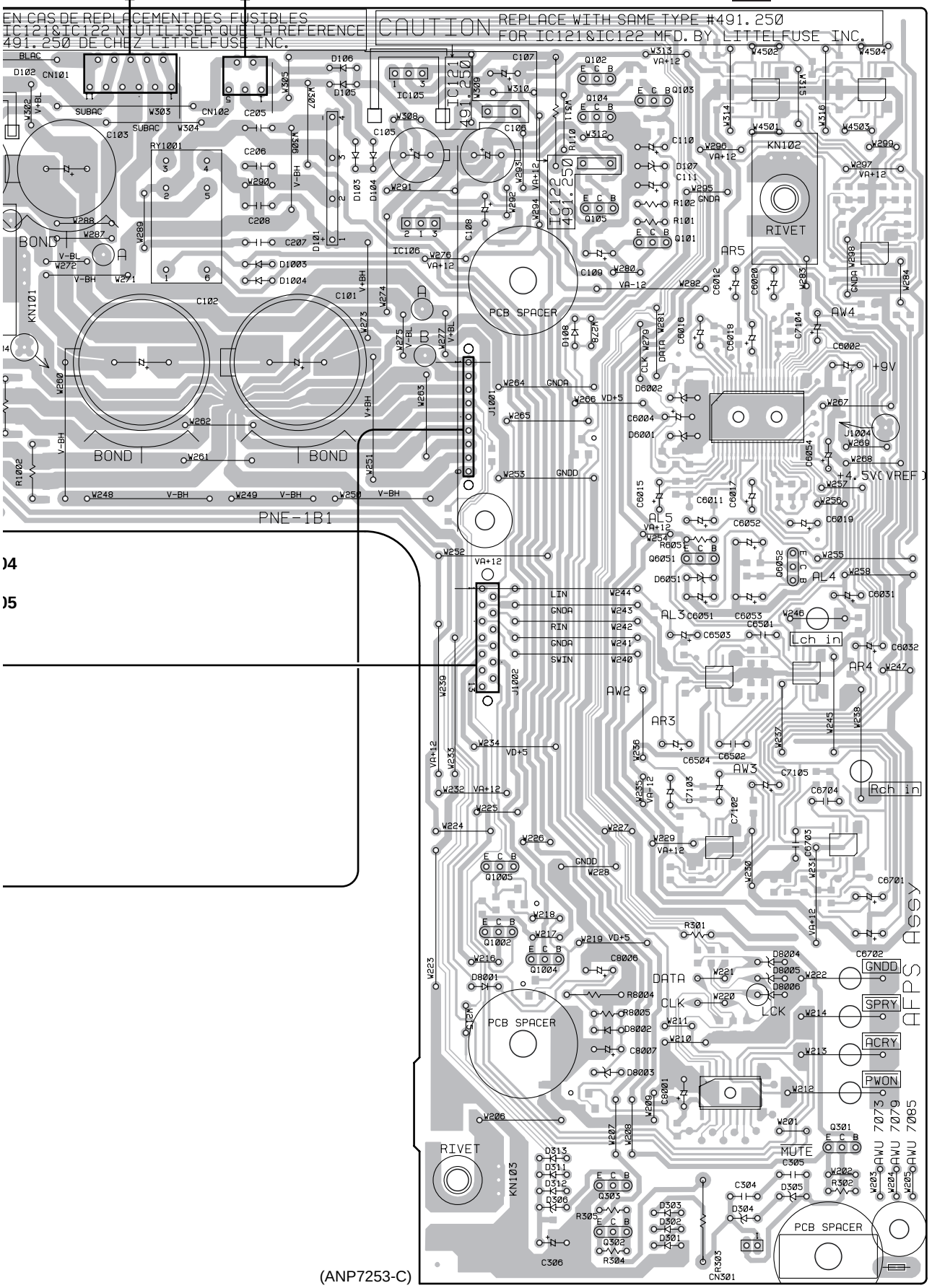
4.3 AFPS AND PAMP ASSEMBLIES



SIDE A

B J101 B J102

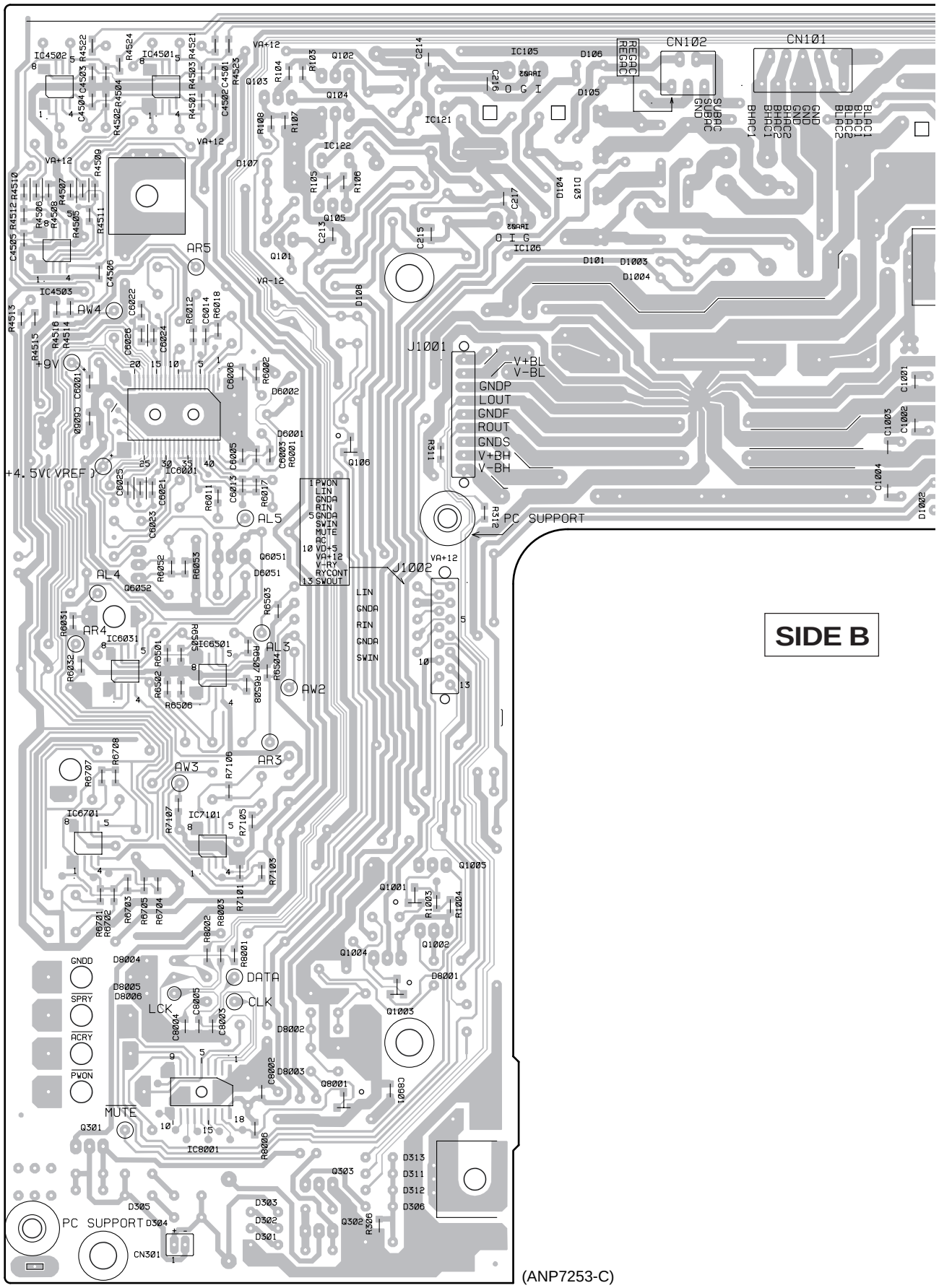
A AFPS ASSY



(ANP7253-C)

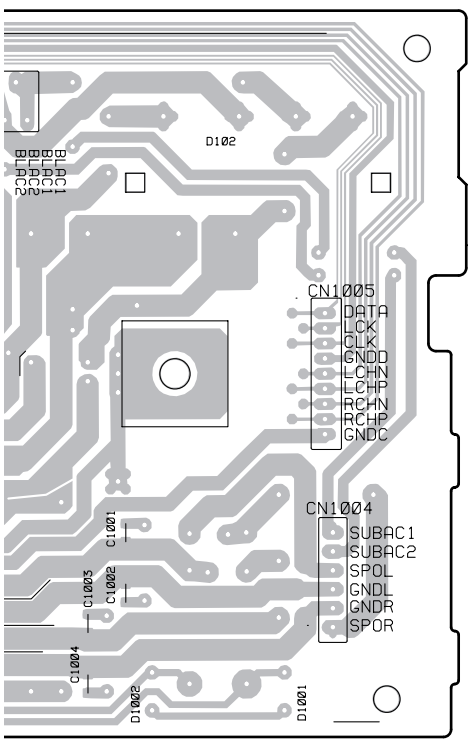
IC105,Q102
IC121,Q104,Q103
IC122
Q105
IC106
Q101
Q6051,Q6052
Q1005
Q1002
Q1004
Q301
Q303
Q302

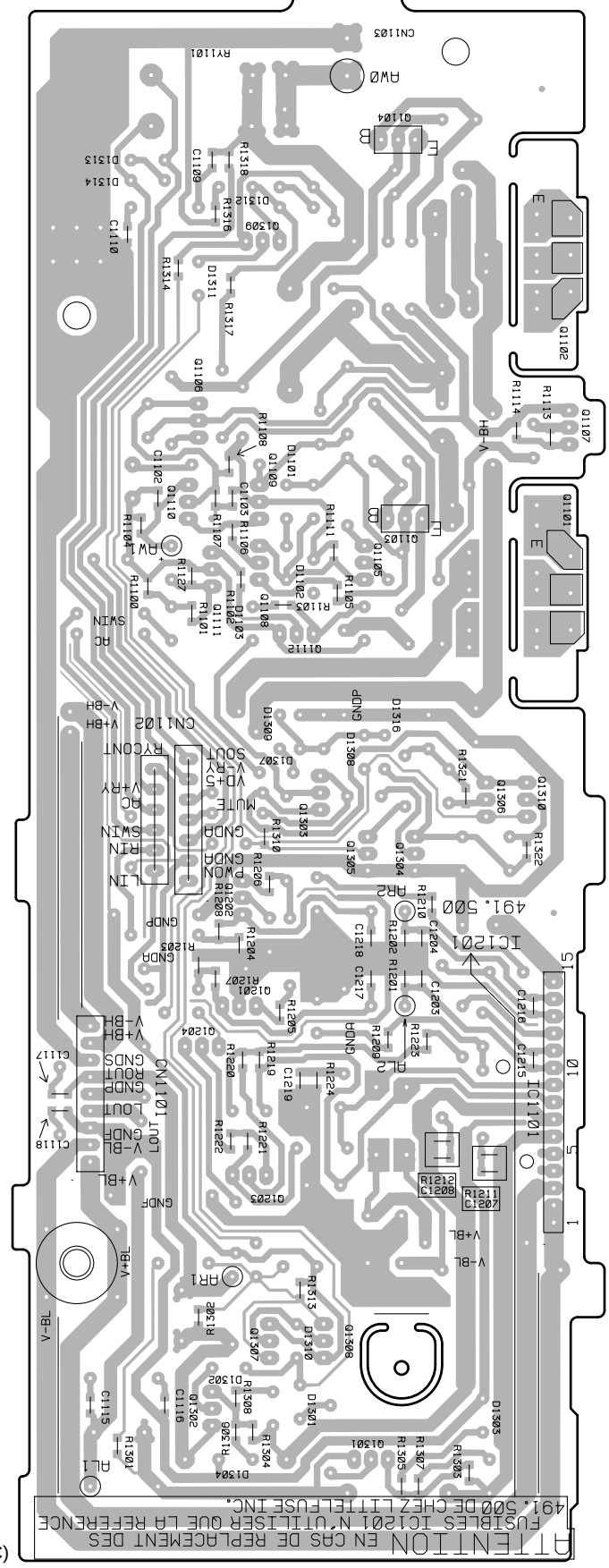
A AFPS ASSY


IC4502,IC4501
IC4503
IC6001
Q106
IC6031,6501
IC6701,IC7101
Q1001
Q1003
IC8001,Q8001
SIDE B
PC SUPPORT
CN102
CN101
J1001
J1002
V+BL
V-BL
GNDP
LOUT
GNDF
ROUT
GNDS
V+BH
V-BH
+9V
+4.5V(VREF)
DATA
CLK
LCK
MUTE
PWON
ACRY
SPRY
GNDD
(ANP7253-C)

SIDE B

D PAMP ASSY





(ANP7253-C)

5. PCB PARTS LIST

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10 [1] → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10 [3] → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10 [1] → 5621 ..... RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.

LIST OF PCB ASSEMBLIES

	MOTHER ASSY	AWM7368
	├ AFPS ASSY	AWU7073
	├ PAMP ASSY	AWU7074
	├ PT PRI ASSY	AWU7075
	├ PT SEC ASSY	AWU7076
	└ JACK ASSY	AWU7077

A AFPS ASSY

SEMICONDUCTORS

⚠	IC121, IC122 (250mA/125V)	AEK7002
	IC8001	BU2092F
	IC6001	M62419FP
	IC4501–IC4503, IC6031, IC6501, IC6701	NJM4558MD
	IC7101	NJM4558MD
⚠	IC105	NJM7812FA
⚠	IC106	NJM7912FA
	Q104	2SA933S
	Q102	2SB1237X
	Q1002, Q1005, Q103	2SC1740S
⚠	Q6051, Q6052	2SC1740S
⚠	Q101	2SD1858X
	Q105	2SD1858X
	Q1001, Q1003, Q106	DTA143EK
	Q8001	DTC124EK
	Q1004	DTC143ES
⚠	D103–D106	11ES2
	D1001–D1004, D8001, D8002	1SS254
⚠	D101	D3SBA20 (B)
⚠	D102	D5SBA20 (B)
	D6051	MTZJ10B
	D8003	MTZJ2.7B
	D107	MTZJ5.6B
	D6001, D6002, D8004–D8006	MTZJ8.2B

RELAYS

	RY1002	ASR7001
⚠	RY1001	ASR7009

CAPACITORS

⚠	C101, C102 (4700 µF/DC63V)	ACH7007
⚠	C103, C104 (3300 µF/DC50V)	ACH7056
	C6013, C6014	CCSQCH470J50
	C7102, C7103	CEANPR47M50
	C6011, C6012, C6015–C6018	CEAT100M50
	C6031, C6032, C6051, C6053	CEAT100M50
	C6701, C6702, C7104, C7105, C8006	CEAT100M50
	C6004	CEAT101M10
	C6052	CEAT101M16
	C105	CEAT102M25
	C6054	CEAT221M10
	C6503, C6504	CEAT2R2M50
	C106	CEAT331M25
	C107–C109, C111, C8001, C8007	CEAT470M25
	C110, C6019, C6020	CEAT4R7M50
	C8003–C8005	CKSQYB102K50
	C6005, C6006	CKSQYB472K50
	C6021, C6022, C6025, C6026	CKSQYB682K50
	C6023, C6024	CKSQYB683K25
	C4501–C4506, C6001, C6003, C8002	CKSQYF103Z50
	C1001–C1004, C216, C217	CKSQYF104Z50
	C6060	CKSQYF473Z50
	C205–C208	CQMA223K2E
	C6704	CQMBA104J50
	C6501, C6502, C6703	CQMBA473J50

RESISTORS

	R8004	RD1/2PM222J
	R1001, R1002	RD1/4PM100J
	R101	RD1/4PU182J
	R102	RD1/4PU220J
	R8005	RD1/4PU273J
	R6051	RD1/4PU821J
	R4505–R4512	RS1/10S1001F
⚠	R110	RS3LMF151J
	Other Resistors	RS1/10S □□□J

OTHERS

	CABLE HOLDER (9P)	51052-0900
	CABLE HOLDER (13P)	51063-1305
J1002	JUMPER WIRE	D15A13-150-2651
CN1005	9P PLUG	KM200TA9
CN1004	SOCKET 6-P	KP250NA6
CN101	CONNECTOR (11P)	KPE11
CN102	CONNECTOR (5P)	KPE5
KN101, KN102	EARTH METAL FITTING	VNF1084

Mark	No.	Description	Part No.
		D PAMP ASSY	
		SEMICONDUCTORS	
⚠	IC1201	(500mA/125V)	AEK7005
⚠	IC1101		STK407-040B
	Q1105		2SA1145
⚠	Q1104		2SA1837
⚠	Q1102		2SA1941 (P)
	Q1203		2SA933S
	Q1108		2SA970
	Q1109, Q1110		2SA992
⚠	Q1107		2SC1740S
	Q1301, Q1302, Q1307, Q1308		2SC1740S
	Q1309		2SC2240
	Q1106		2SC2705
⚠	Q1103		2SC4793
⚠	Q1101		2SC5198 (P)
	Q1111, Q1201, Q1202		2SD2144S
	Q1306, Q1310		DTA123JS
	Q1112, Q1303		DTA143ES
	Q1204		DTC124ES
	Q1304, Q1305		DTC143ES
	D1307, D1309		11ES2
	D1101–D1103, D1301–D1304, D1308		1SS254
	D1310–D1312, D1316		1SS254
	COILS		
	L1201, L1202 (1 µH)		ATH-133
	L1101 (0.7 µH)		ATH1004
	RELAY		
	RY1101		ASR7001
	CAPACITORS		
	C1107, C1108		CCCSL101K2H
	C1104		CCCSL120K2H
	C1106		CCCSL5R0C2H
	C1207, C1208		CCSQSL3R0C50
	C1103		CCSQSL681J50
	C1105		CEANP101M50
	C1306		CEANP2R2M50
	C1100, C1101, C1205, C1206		CEAT100M50
	C1209, C1210, C1304		CEAT100M50
	C1111, C1303		CEAT101M10
	C1211, C1212		CEAT101M50
	C1120		CEAT220M50
	C1305		CEAT221M10
	C1213		CEAT330M50
	C1307		CEAT470M25
	C1201, C1202		CEYA1R0M50
	C1203, C1204		CKSQYB152K50
	C1102		CKSQYB223K50
	C1109, C1110, C1219		CKSQYF104Z50
	RESISTORS		
⚠	R1124 (0.33 Ω)		ACN7001
	R1126		RD1/2PM100J
⚠	R1217, R1218		RD1/4LMF101J
	R1109		RD1/4PM104J
	R1110		RD1/4PM112J
⚠	R1125, R1215, R1216		RD1/4PMF100J
⚠	R1116–R1119		RD1/4PMF101J
⚠	R1112		RD1/4PMF680J
	R1312		RD1/4PU222J
	R1315		RD1/4PU821J
⚠	R1115		RF1/4PS101J
⚠	R1120–R1123		RF1/4PS4R7J
	R1213, R1214		RS2LMFR22J
	Other Resistors		RS1/10S □□□J
	OTHERS		
	CN1103	2P CONNECTOR	5569-02A1
	CN1101	9P JUMPER CONNECTOR	KPD9
	CN1102	CONNECTOR (13P)	KPE13
		C PT PRI ASSY	
		CAPACITOR	
⚠	C1	(10000pF/AC250V)	ACG7020
		OTHERS	
	H1, H2	FUSE CLIP	AKR7001
		B PT SEC ASSY	
		SEMICONDUCTORS	
⚠	IC103	(1A/125V)	AEK7009
⚠	IC101, IC102	(1.25A/125V)	AEK7010
⚠	IC110, IC111	(10A/125V)	AEK7022
		CAPACITORS	
	C123	(0.01 µF/DC100V)	ACG7021
	C121, C122		CKSQYF103Z50
		OTHERS	
		CABLE HOLDER (5P)	51063-0505
		CABLE HOLDER (11P)	51063-1105
	J102	JUMPER WIRE	D15A05-200-2651
	J101	JUMPER WIRE	D15A11-200-2651
		E JACK ASSY	
		SEMICONDUCTORS	
	D4501–D4506, D4508		MTZJ8.2B
		CAPACITORS	
	C4601–C4606		CKCYF103Z50
		OTHERS	
	CN1003	8P CONNECTOR	AKP7026
	CN1104	PLUG 6-P	KM250NA6L
	CN1105	9P SOCKET	KP200TA9L
		I/O JACK	VKN1070
		SCREW PLATE	VNE1948

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

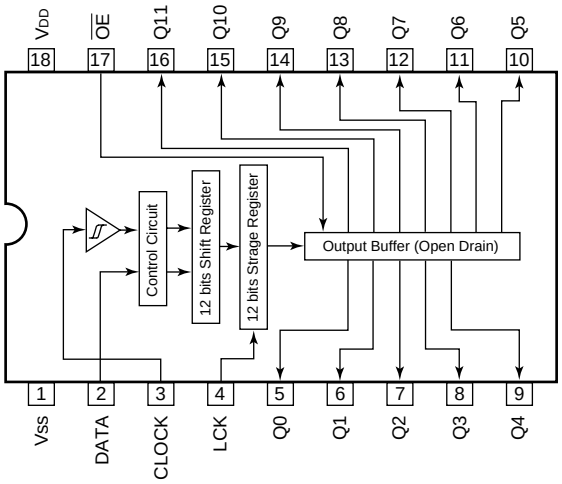
7.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ BU2092F (IC8001: AFPS ASSY)

● Serial In/Parallel Out Driver

● Block Diagram



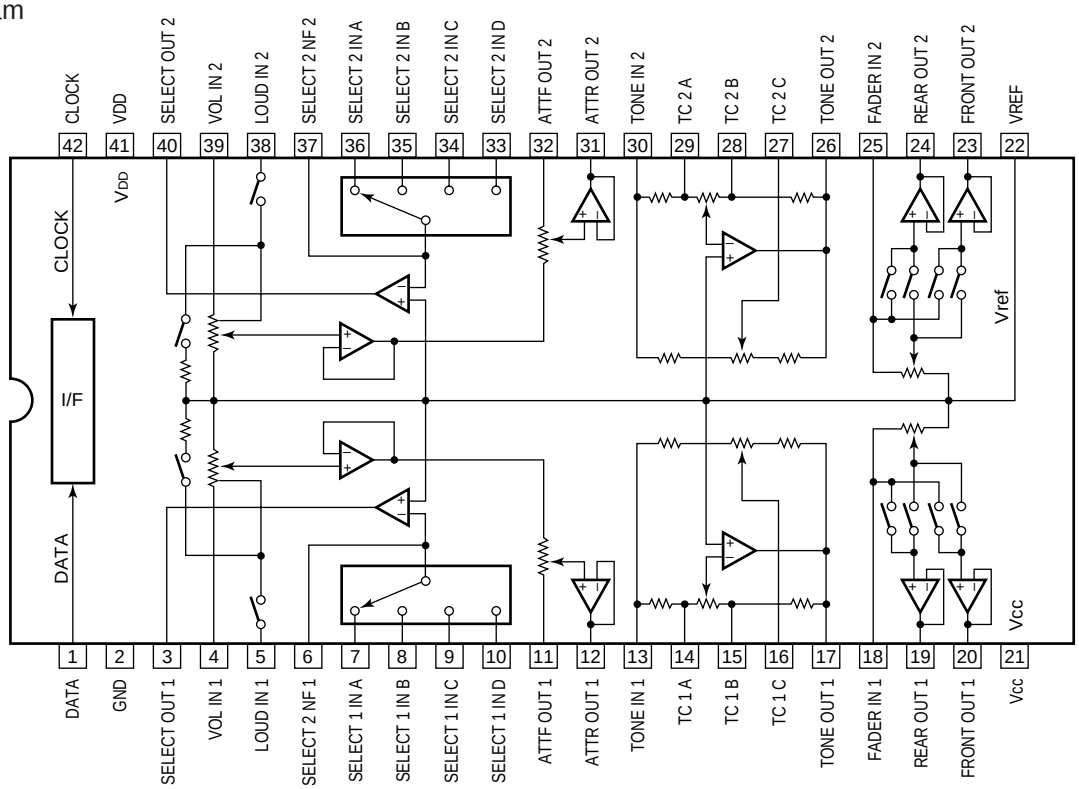
● Pin Function

No.	Name	I/O	Description
1	Vss	–	GND
2	DATA	I	Serial data input
3	CLOCK	I	Shift lock for data (↓)
4	LCK	I	Lutch clock for data (↓)
5 | 16	Q0 | Q11	O	Parallel data output (Nch Open Drain FET) Lutch Data: L / H Output FET: ON / OFF
17	$\overline{OE}$	I	Output enable (H: output, FET: OFF)
18	VDD	–	Power supply

■ M62419FP (IC6001: AFPS ASSY)

● Electronic Volume Control with Tone Function

● Block Diagram



● Pin Function

No.	Name	Description
1	DATA	Control data input terminal. Data are entered synchronized to CLOCK.
2	GND	Ground terminal
3	SELECT OUT1	Output terminals of the input selector switch
4	VOL IN1	Input terminals of the volume control section
5	LOUD IN1	Frequency characteristic setting terminal of the loudness section
6	SELECT2 NF1	Each input gain is adjusted by the resistor connected between this terminal and the SELECT OUT terminal and the resistor added between IN A and IN D.
7	SELECT1 IN A	Input terminal for channel 1 of the input selector switch section
8	SELECT1 IN B	
9	SELECT1 IN C	
10	SELECT1 IN D	
11	ATTF OUT1	Output terminals of the volume control section (initial stage). Connect by C connection to the VREF terminal 22 for reduction of the switching noise.
12	ATTR OUT1	Output terminals of the volume control section (last stage)
13	TONE IN1	Input terminals of the tone control section
14	TC1 A	Frequency characteristic setting terminals of the tone control section for channel 1
15	TC1 B	
16	TC1 C	
17	TONE OUT1	Output terminals of the tone control section
18	FADER IN1	Input terminals of the fader volume control section
19	REAR OUT1	Output terminals of the fader volume control section (rear)
20	FRONT OUT1	Output terminals of the fader volume control section (front)
21	Vcc	Analog power supply terminal
22	DATA	IC signal ground. Impress 1/2 VCC.
23	FRONT OUT2	Output terminals of the fader volume control section (front)

No.	Name	Description
24	REAR OUT2	Output terminals of the fader volume control section (rear)
25	FADER IN2	Input terminals of the fader volume control section
26	TONE OUT2	Output terminals of the tone control section
27	TC2 C	Frequency characteristic setting terminals of the tone control section for channel 2
28	TC2 B	
29	TC2 A	
30	TONE IN2	Input terminals of the tone control section
31	ATTR OUT2	Output terminals of the volume control section (last stage)
32	ATTF OUT2	Output terminals of the volume control section (initial stage). Connect by C connection to the VREF terminal 22 for reduction of the switching noise.
33	SELECT2 IN D	Input terminal for channel 2 of the input selector switch section
34	SELECT2 IN C	
35	SELECT2 IN B	
36	SELECT2 IN A	
37	SELECT2 NF2	Each input gain is adjusted by the resistor connected between this terminal and the SELECT OUT terminal and the resistor added between IN A and IN D.
38	LOUD IN2	Frequency characteristic setting terminal of the loudness section
39	VOL IN2	Input terminals of the volume control section
40	SELECT OUT1	Output terminals of the input selector switch
41	VDD	Digital power supply terminal
42	CLOCK	Clock input terminal for serial data transfer

7.2 DIAGNOSIS

■ Diagnosis Method for the Power Amplifier section (PAMP Assy)

(1) Remove the three screws Ⓐ fixing the Heat sink.
(2) Remove the three PCB Holders and rotate as shown in the Fig 1.

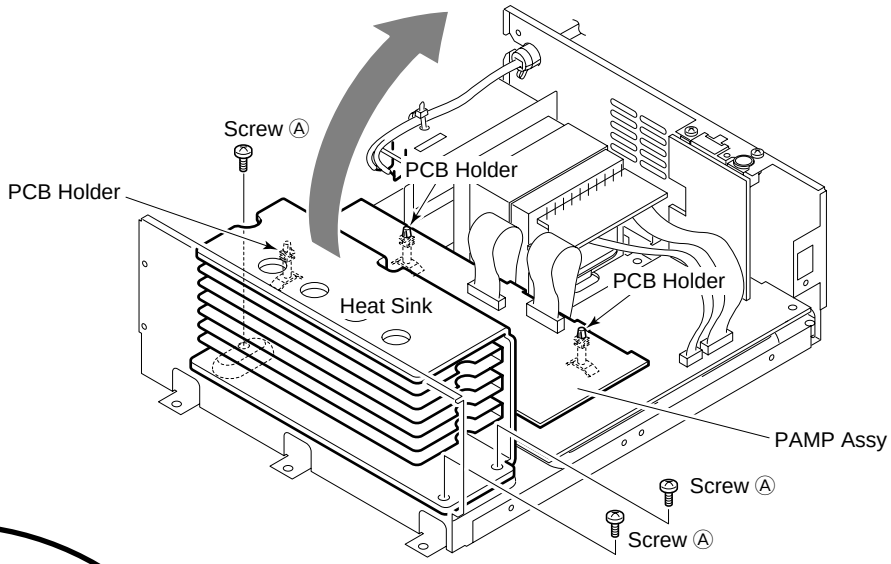


Fig. 1

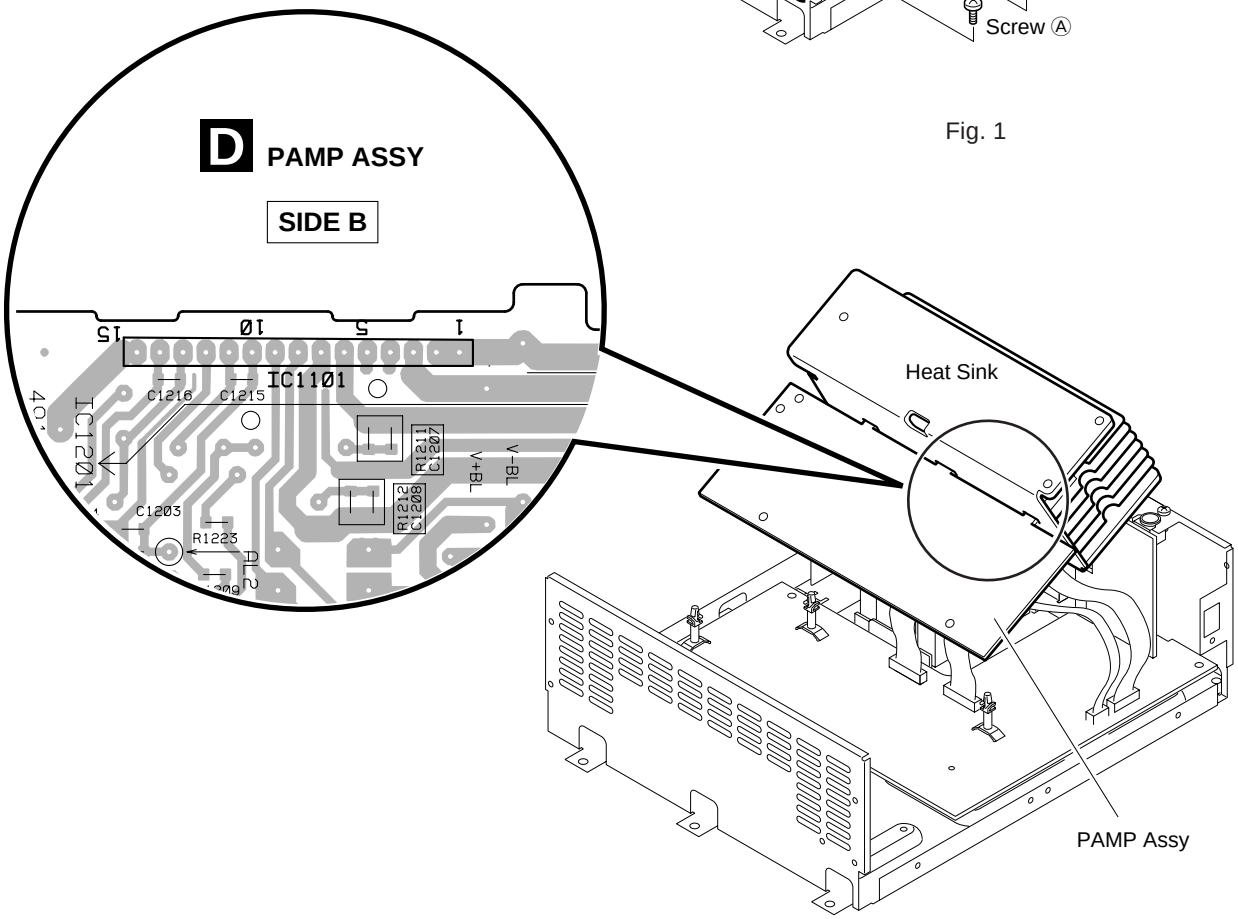


Fig. 2

■ Diagnosis Method for the AFPS Assy

(1) Remove the three screws Ⓐ fixing the Heat sink.
(2) Remove the three PCB Holders and then remove the Heat sink. (Refer to Fig.1)
(3) Remove the screw Ⓑ, remove the two screws Ⓒ, remove the two push rivets Ⓓ, and then remove the AFPS assy. (Refer to Fig. 3)
(4) Short-circuit KN101 of the AFPS assy and KN1001 of the JACK assy.
(5) Short-circuit all test terminals of the AFPS assy (SPRY, ACRY, PWON) to GNDD.
(6) Remove C6031, enter an audio signal to the AL4 (Lch in) terminal, and analyze the AFPS assy. (Refer to Fig. 4)

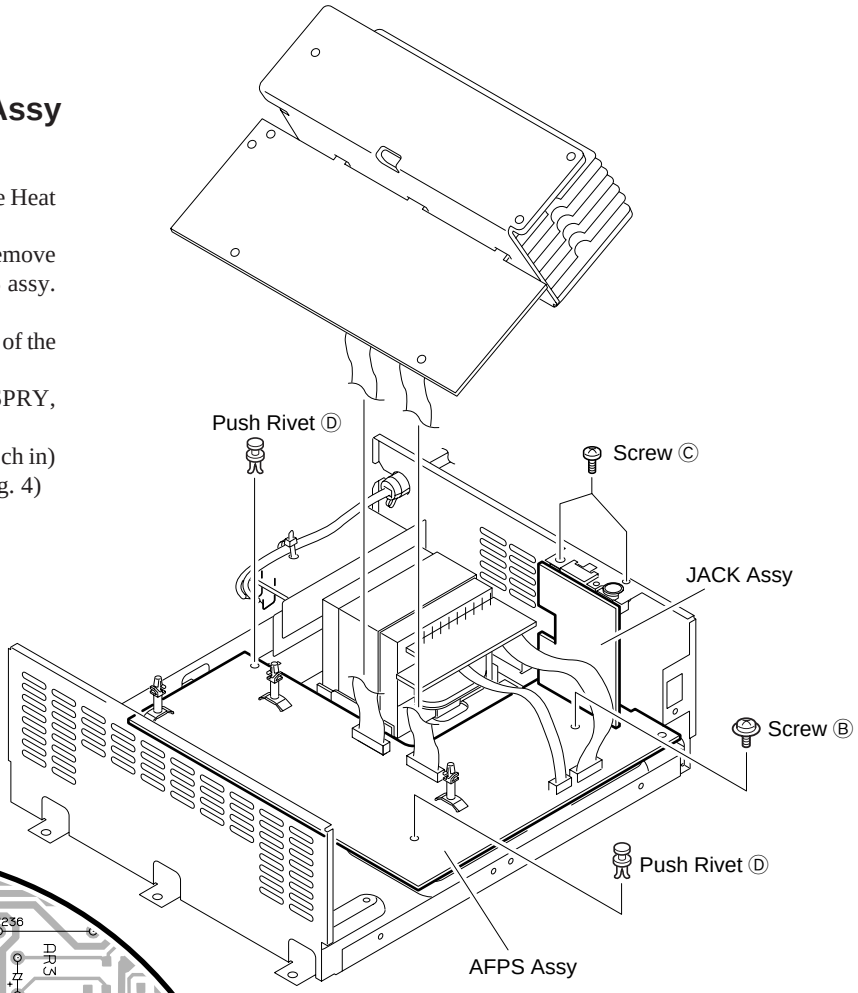


Fig. 3

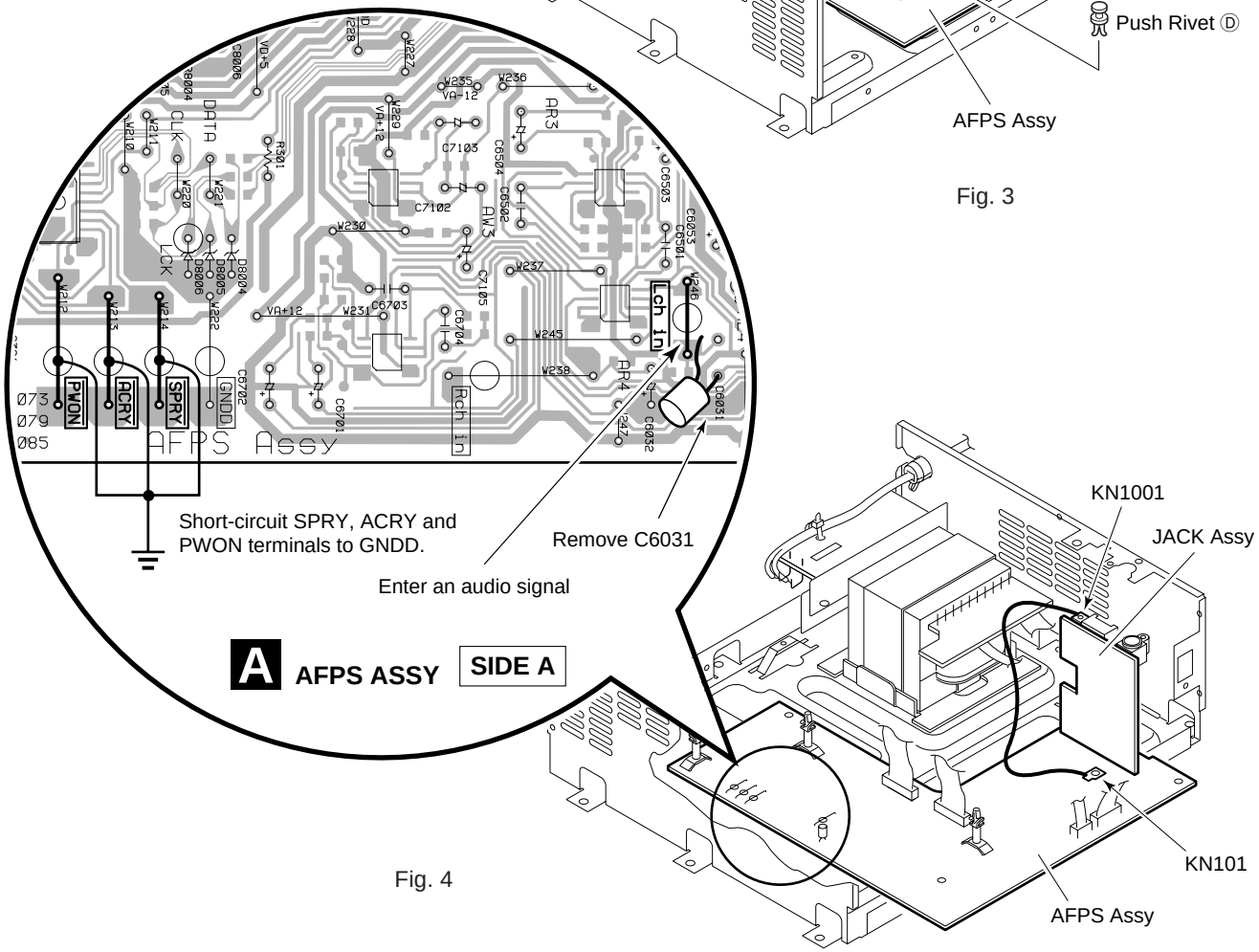
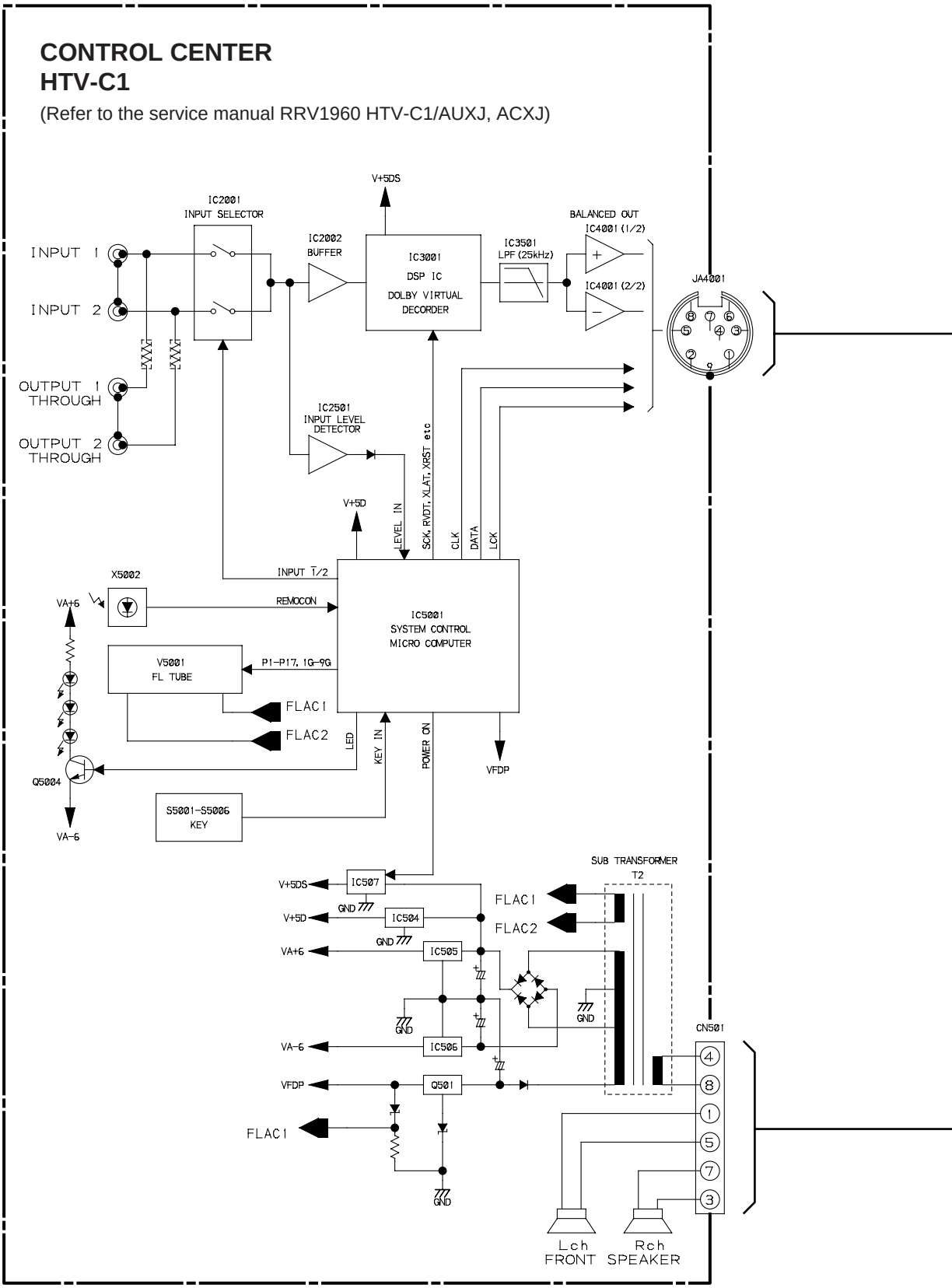
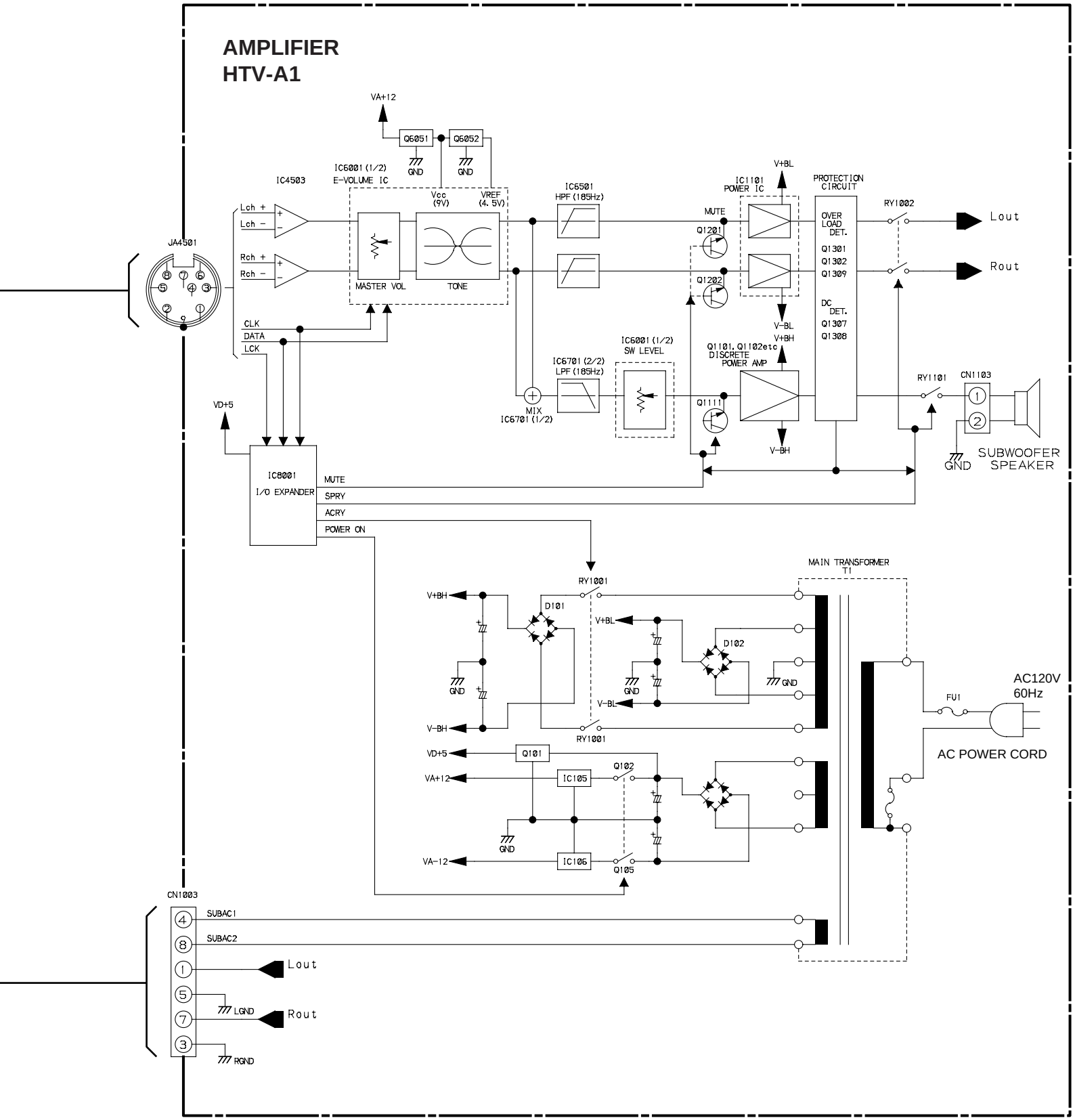


Fig. 4

7.3 BLOCK DIAGRAM



AMPLIFIER
HTV-A1



8. PANEL FACILITIES AND SPECIFICATIONS

■ SPECIFICATIONS

HTV-1

Amplifier Section
[Front left and right channels]

Continuous average power output of 30 watts* per channel, min., at 8 ohms, from 180 Hz to 15,000 Hz with no more than 1 % total harmonic distortion.**

[Subwoofer channel]

Continuous average power output of 60 watts* , min., at 8 ohms, from 40 Hz to 180 Hz with no more than 1 % total harmonic distortion.**

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*
** *Measured by Audio Spectrum Analyzer.*

Input (Sensitivity/Impedance)
INPUT 1, 2 ..... 200 mV/22 kΩ

Speaker Section
Front L/R ..... 8.7 cm cone type
Subwoofer ..... 20 cm cone type

Miscellaneous
Power Requirements ..... AC 120 V, 60 Hz
Power Consumption ..... 150 W
Dimensions
Control center ..... 610 (W) × 110 (H) × 166 (D) mm
24-3/16 (W) × 4-5/16 (H) × 6-9/16 (D) in
Powered subwoofer ..... 364 (W) × 360 (H) × 371 (D) mm
14-5/16 (W) × 14-3/16 (H) × 14-5/8 (D) in
Weight (without package)
Control center ..... 3.8 kg (8 lb 6 oz)
Powered subwoofer ..... 13.5 kg (29 lb 12 oz)

Furnished Parts (HTV-C1)
System cable A 1
System cable B 1
Audio cord 1
Mount kit 1
Dry Cell Batteries (AA/R6P) 2
Remote Control Unit 1
Operating Instructions 1
Warranty card 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

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